

Teach yourself Raw in Photoshop

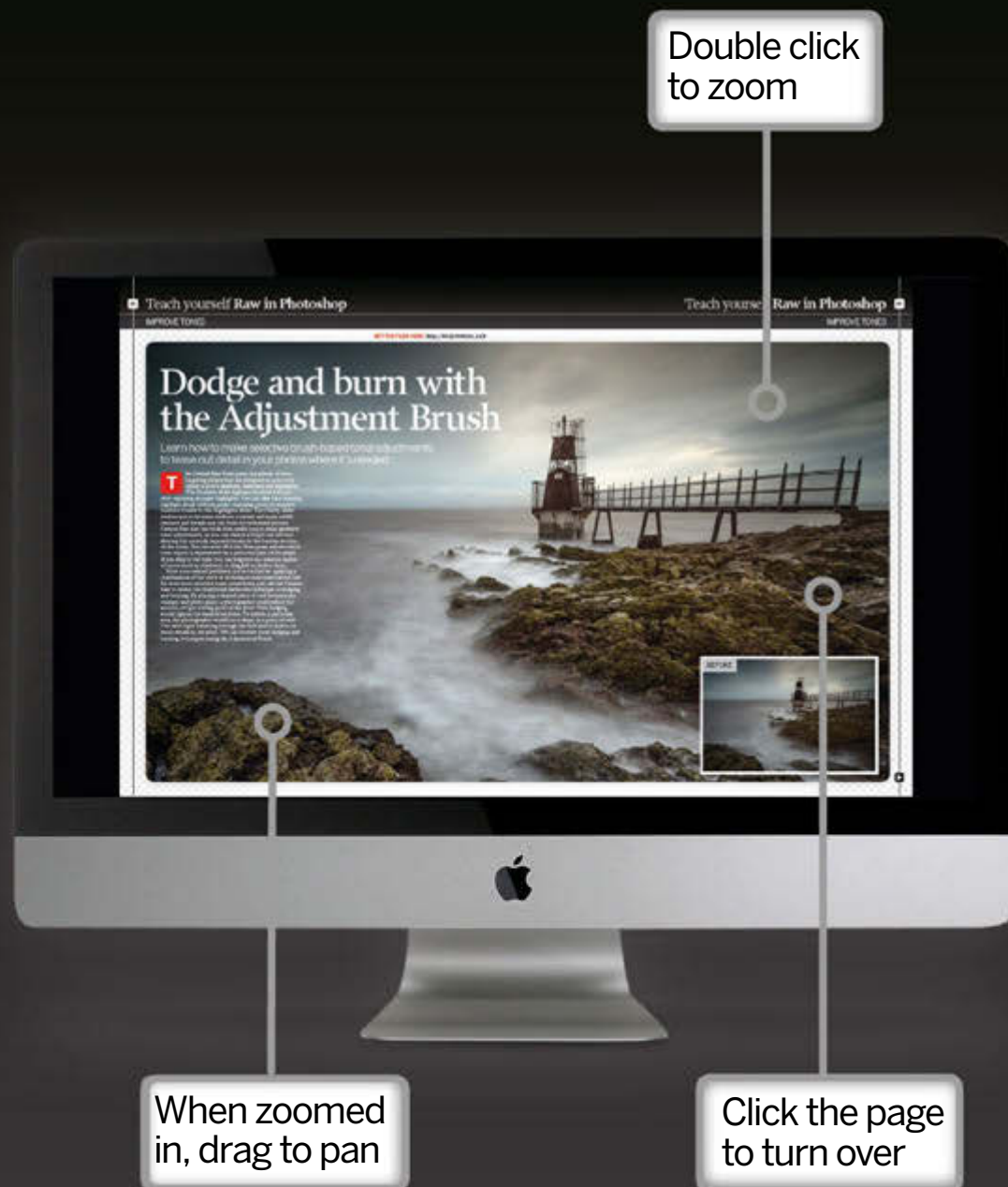
Use Adobe Camera Raw to perfect your images
in Photoshop, Elements and Lightroom



- ✓ Unlock your camera's raw potential
- ✓ Learn the key image processing steps
- ✓ Make the best possible photo prints

Welcome to your digital edition

Three easy ways to read this digital book...



Teach yourself Raw in Photoshop



To get the best image quality from your SLR or compact system camera, you need to be shooting in the raw image format. Raw files contain much more detail in the scene compared with a simple JPEG, and provide far more flexibility to adjust contrast, colour and exposure at the editing stage. If you tried to do the same with a JPEG, you'll soon end up with a pixelated mess!

There are many ways to process your raw files, and the most popular and best software is one of the Photoshop family of programs. Whether you use Photoshop CS or CC, Photoshop Lightroom or Photoshop Elements, the conversion process is powered using the powerful built-in plugin called Adobe Camera Raw.

The range of controls you get in Adobe Camera Raw depends on the version of Photoshop you're using. You get a greater range of features with Photoshop CC, for instance, than you do with Photoshop Elements 12. But the core functionality is available in all versions, so whatever version of Photoshop you're using, you'll be sure to find plenty in this book to improve your photo-editing skills.

We hope you enjoy learning with this guide. And because you bought this book we'd also like to offer you a 40% discount off our extended 50-part *Teach yourself Raw in Photoshop* interactive DVD training course.

To claim the discount, simply use the voucher code **MFMDVD** at www.myfavouritemagazines.co.uk/photo

George Cairns, **Author**



A **Photo**masterclass
from the makers of **Camera**

Teach yourself Raw in Photoshop

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Teach yourself Raw in Photoshop

ORGANISE WITH BRIDGE





Organise with Bridge

Get started in raw processing fast by learning the best ways to import and organise your images

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Get to know the key areas of Bridge's photo-organising workspace and discover how to customise it to suit your needs

10 **Import your photos into Bridge**
Import images from your camera into Bridge, and organise and convert them in preparation for editing in Photoshop

12 **Add metadata and keywords to your images**
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16 **Organise your images in Bridge**
Use Bridge's asset management tools to help you find particular pictures quickly and easily using Collections



Introducing the Bridge workspace

Get to know the key areas of Bridge's photo-organising workspace and discover how to customise it to suit your needs

One of the biggest problems we face as digital photographers is our ever-growing collections of images. We may have hundreds of photos scattered across hundreds of folders on our computers. These folders tend to display images according to when they were captured, so we have to rely on our memory of what was shot when as we search for a particular photo.

All versions of Photoshop attempt to deal with this asset management problem using similar tools. The Photoshop Elements Organizer allows you to add star ratings and keywords. Lightroom's Library module does a similar job. Photoshop CC and CS use a companion application called Bridge. If you access the full version of Photoshop as a download via the Creative Cloud service,

you'll need to download the Bridge application separately.

Bridge is a powerful image browser that enables you to take control over your digital assets before exporting them to Photoshop for editing. On this spread we'll introduce you to the key features of Bridge, and demonstrate how to customise the workspace to display images in a more useful way. ■

Photoshop Anatomy The Bridge workspace

Get to know the key features of Adobe Bridge



1 FOLDERS

Click the Folders tab to browse to any folder of images stored on your PC. Drag your most commonly used folders into the Favorites panel.

2 THUMBNAILS

Bridge displays your images as thumbnails. You can use the slider at the bottom of the workspace to increase the thumbnail size.

3 WORKSPACES

These links enable you to change the way panels and images are displayed in Bridge. For example, the Filmstrip option gives you larger previews.

4 METADATA

This panel emulates the display on your digital SLR. It reads the metadata stored in the currently active thumbnail so that you can discover what shutter speed, ISO and aperture settings were used to capture the image. It also shows the metering modes.

5 FILTERS

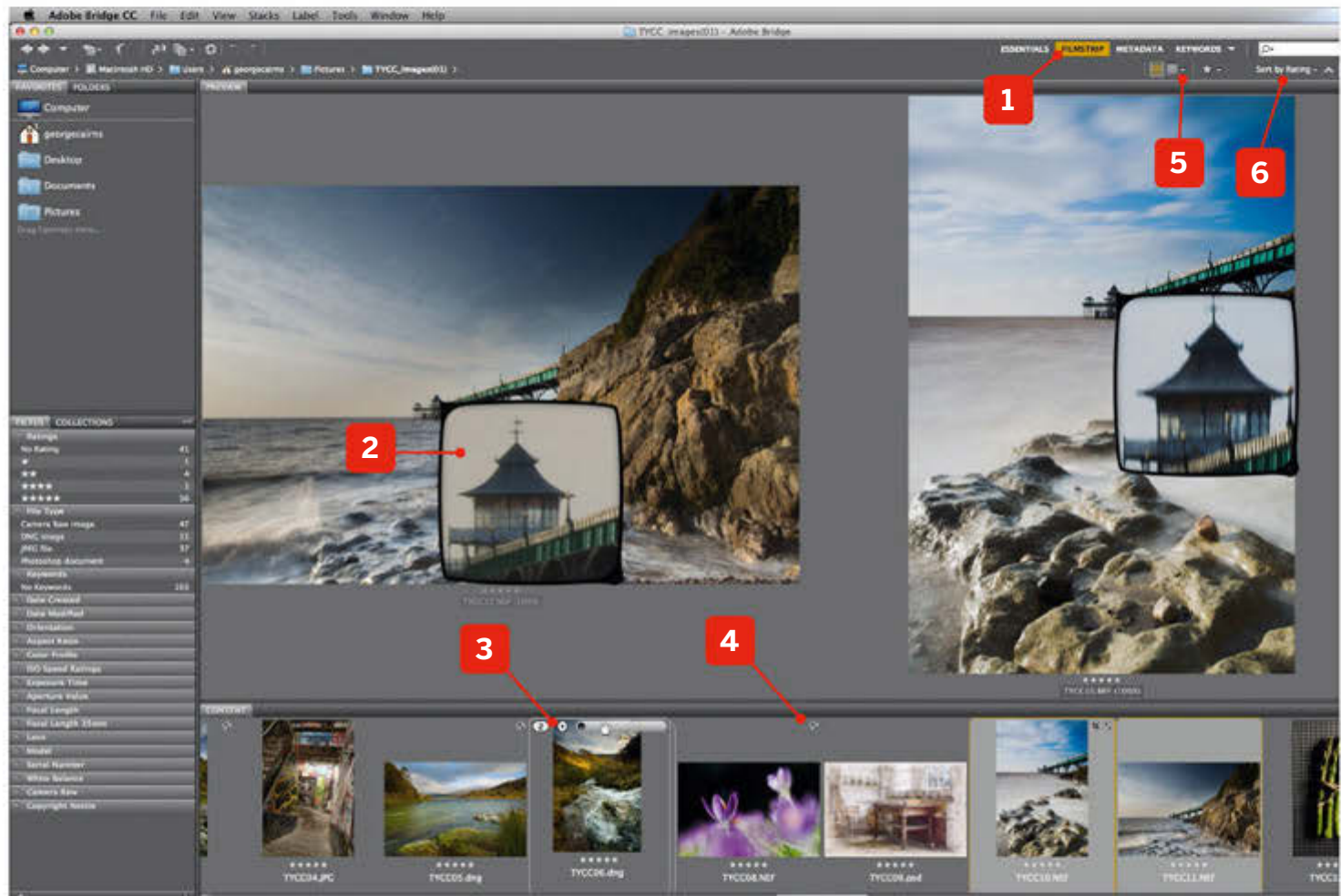
This panel enables you to present files that meet specific criteria, such as those with a specific star rating. You can also filter the files' metadata and discover images that were captured with a particular shutter speed setting, for example.

6 KEYWORDS

This panel enables you to quickly assign descriptive keywords to a photo. You can then use the Filter panel to display photos that contain a specific keyword. We'll demonstrate how to add and search for keywords later in this chapter.

Overview Customising Adobe Bridge

Take a closer look at your pictures using the Filmstrip view



1 FILMSTRIP

By clicking the Filmstrip workspace icon you display the selected thumbnail at a much larger size in the Preview window. Shift-click to select and compare multiple images, as we're doing in this image.

2 LOUPE VIEW

The easiest way to see if an image is in focus is by looking at it at 100% magnification. To do so, click the image to activate the Loupe view. Drag the loupe to examine the image. We can see that the image on the right is blurred.

3 STACKING

To stop similar-looking images from cluttering up the workspace, Shift-click to select them and then choose **Stacks>Group As Stack**. Click the play icon to see each thumbnail contained in a stack (or drag the scroll bar).

4 EDITED IMAGES

If the colours, sharpness or tones of a raw format photo have already been adjusted in Photoshop, you'll see this icon. You may also spot more specific icons that indicate that an image has been cropped, for example.

5 THUMBNAIL QUALITY

By default you browse a raw file's content by displaying the low-resolution thumbnail that was embedded with the file when it was captured. For a more accurate preview of colours and tones, click here and choose **High Quality display**. This will demand more processing power, however.

6 SORT BY

To see your files in chronological order (with the oldest ones appearing on the left of the Filmstrip), set this **Sort By** drop-down menu to **Date Created**. You can also use this option in the **Essential** workspace to display the oldest files at the top.

Import your photos into Bridge

Import images from your camera into Bridge, then organise and convert them in preparation for editing in Photoshop

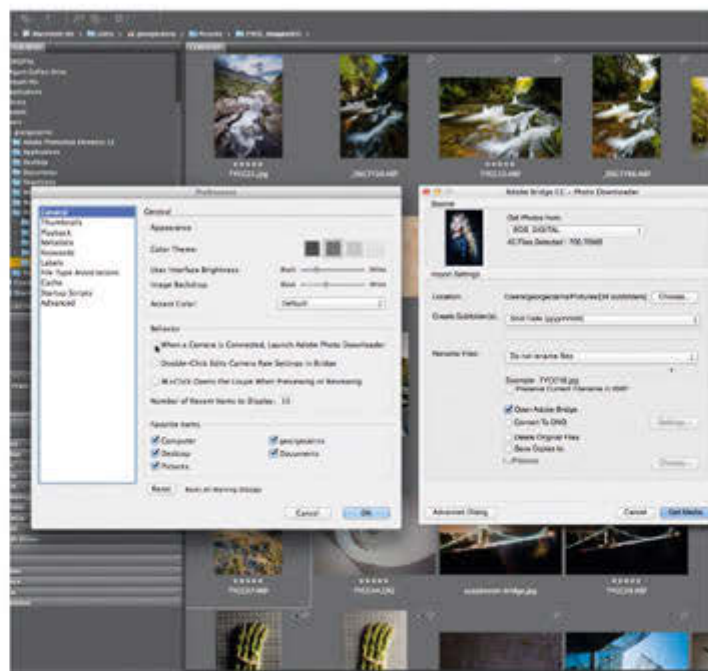
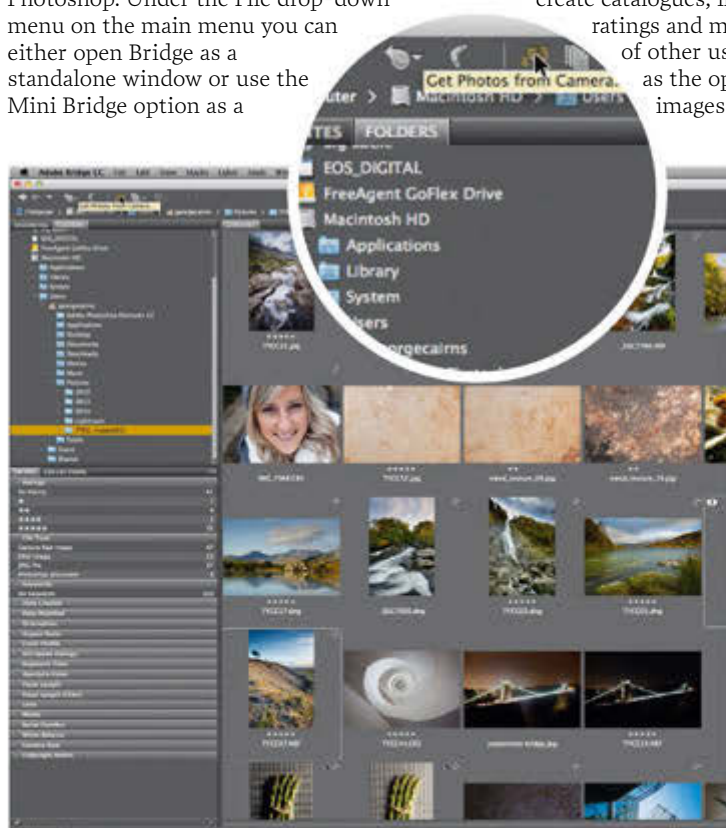
Bridge is a plugin that comes included with all versions of Photoshop. If you're not using Lightroom to import, organise and catalogue your images, then Bridge is the perfect tool that fully integrates with Photoshop. Under the File drop-down menu on the main menu you can either open Bridge as a standalone window or use the Mini Bridge option as a

panel within your Photoshop workspace. Whichever option you choose you can easily browse to your images and incorporate them into your workflow.

However, Bridge is so much more than a browser, you can also use it to add metadata, create catalogues, image stacks, apply star ratings and more. It also offers a host of other useful features too, such as the option to select multiple images and merge them.

CONVERT TO DNG

If you choose the Convert to DNG option, the Photo Downloader will convert third-party raw format files (such as Canon's CR2 or Nikon's NEF) into the Adobe Digital Negative format as it imports them. It will preserve the original raw format files and create a DNG copy in a separate folder. We recommend you keep the original raw files somewhere very safe.

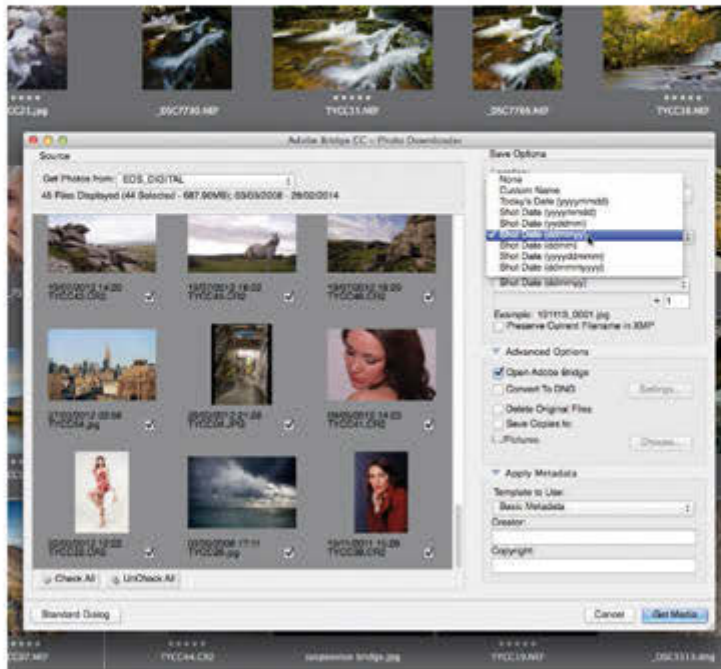


1 Attach your camera

On the previous pages we pointed out how to use Bridge to browse images that are already stored on your computer, courtesy of the Folders panel. This panel acts like any browser or finder window. You can also use Bridge to import and store images directly from an attached camera or memory card into folders on your PC. Kick off by attaching your camera via a USB cable, and then click the Import Photos from Camera icon in Bridge.

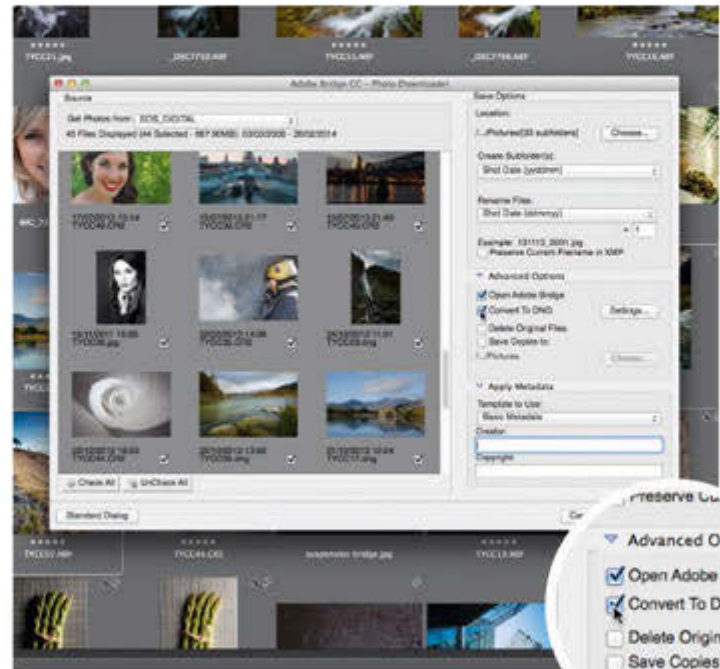
2 Launch Photo Downloader

A dialog will appear, inviting you to make the Photo Downloader launch automatically whenever a camera or card reader is attached. Click Yes or No as desired. You can always change this option later by choosing Adobe Bridge > Preferences > General and then tick or clear When Camera is Connected, Launch Adobe Photo Downloader. Whether you click Yes or No, the Photo Downloader window will appear.



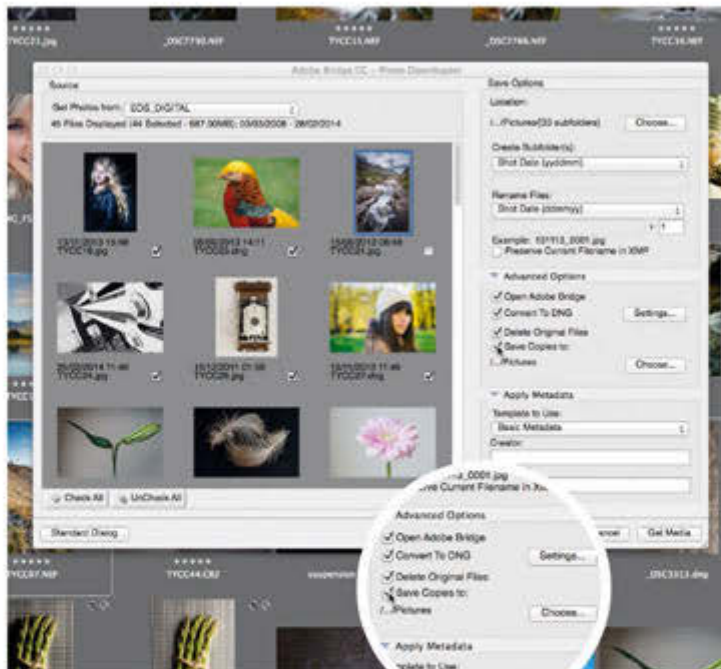
3 Choose a location and label

Click the Advanced Dialog button. Clear any thumbnails that you don't want to import. In the Save Options section, click Choose and browse to where you want to store the files, or leave it set to the default Pictures folder. Set the Create Subfolders drop-down menu to choose your preferred folder labelling format, such as Shot Date (ddmmyy). You can also rename the source files to include the Shot Date. They will then be numbered sequentially.



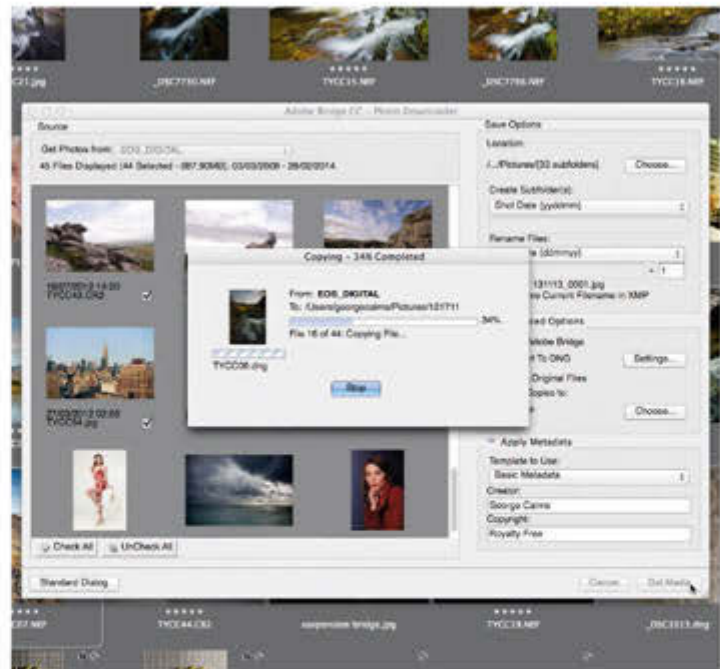
4 Convert to DNG

In the Advanced Options panel you can decide to convert raw files to the DNG format as they are imported. This can be useful if you're planning to share your raw files with other Photoshop users. Different camera manufacturers use different formats to create a raw version of an image and some of these can't be opened in older versions of Photoshop. Adobe's DNG format is also more compatible with third-party applications.



5 Advanced options

By default Adobe Bridge is set to open once you've imported the files. You can set the Photo Downloader to delete the original files on the memory card after they've been imported, so you can capture new images with the card without having to reformat it. You can also save copies of the imported files onto an external drive to create a backup of your photos. Click Choose to select your backup location.



6 Apply metadata

If you plan to share your images electronically, it makes sense to attach your details and the copyright status, such as Creative Commons or Royalty Free, to each photo as it's imported. This will save you the hassle of adding this information to individual files at a later date. We'll look at ways to add more information to metadata on the following pages. Click Get Media to import the selected files. ■

Add metadata and keywords

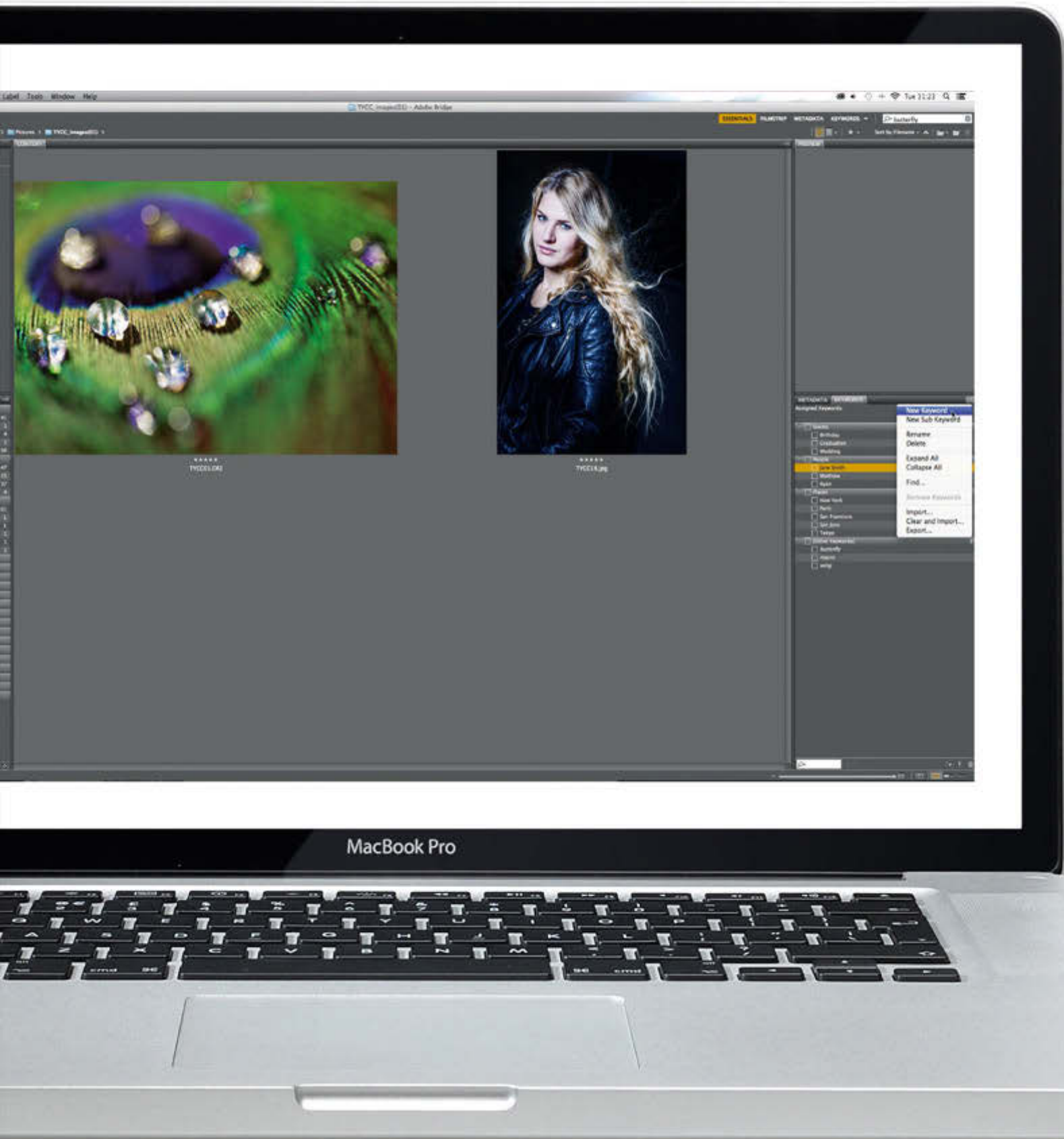
Discover how to protect your photos and make them easier to find in the future

At the end of the workflow on the previous spread we demonstrated how to quickly add your name and the copyright status to each file as it was imported to your computer by the Photo Downloader. This useful information is stored inside each file's metadata, so when the image is shared online or emailed to a client they will know who it belongs to.

The Photo Downloader only enables you to add a limited amount of information to a batch of images, but once you're browsing your imported images in Bridge you can add much more useful data to them, such as your contact details and website address. This helps people contact you if they need to use the image, or at least credit you as its creator. In this walkthrough we'll demonstrate how to edit fields in the IPTC Core panel to assign your contact and copyright details to a file's metadata.

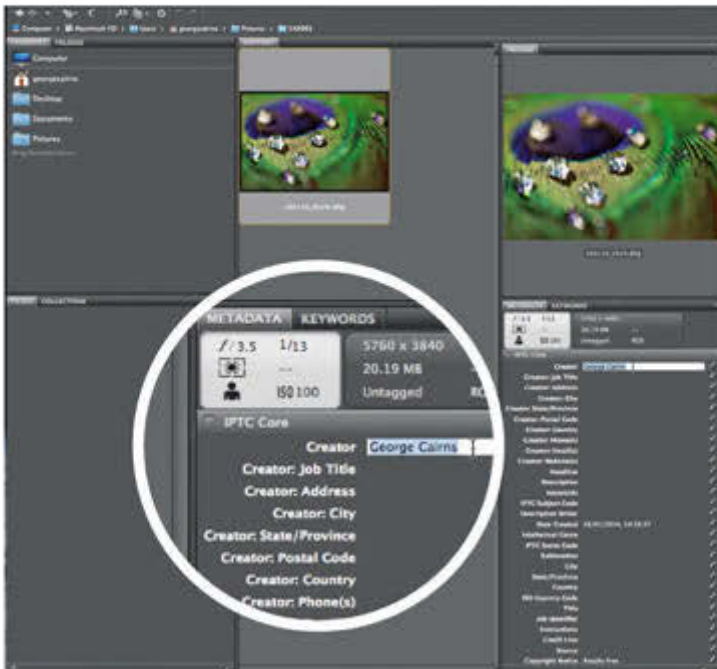
You can add other useful details to metadata in Bridge, such as keywords that describe the contents of an image. This enables you to find a file according to its subject, instead of having to scroll through a chronological list of images trying to remember when you shot a particular picture. Keywords remain embedded in a file's metadata, so they can be used by others to locate an image, which is handy if you want to sell your work as stock photography, for example. We'll demonstrate quick ways to add keywords and then search for them using the filter tools in Bridge.





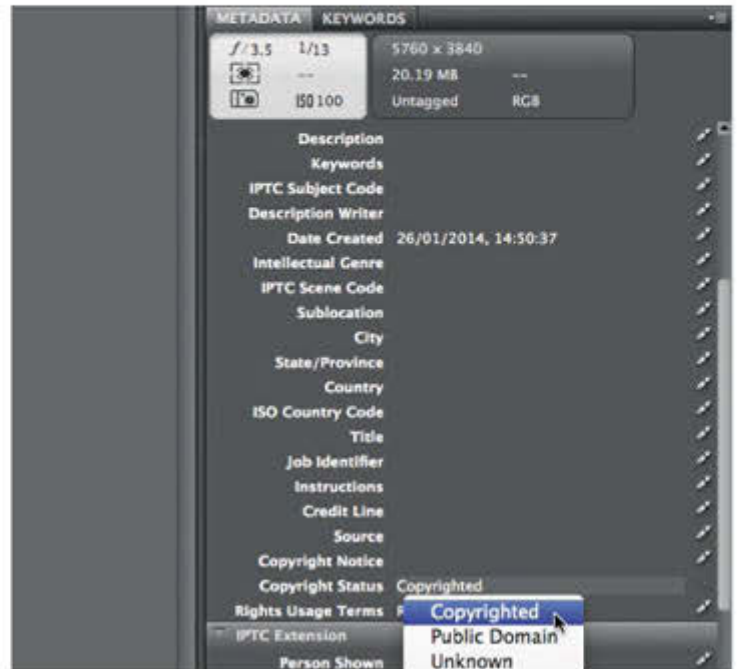
Teach yourself Raw in Photoshop

ORGANISE WITH BRIDGE



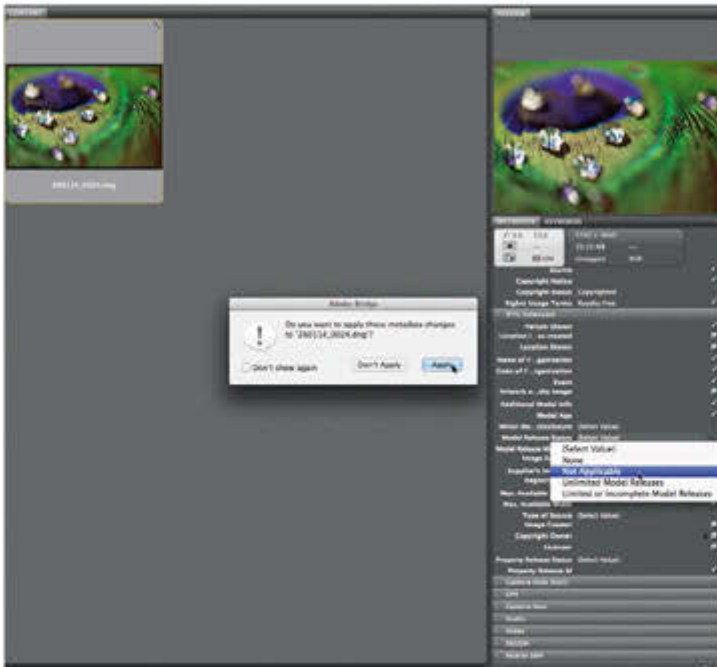
1 Examine the metadata

When importing images into Lightroom you can type your name into the Photo Downloader's Creator field. If you've chosen this option, you can check that your name is attached to the file. Click the thumbnail of an image and then toggle open the IPTC Core section of the Metadata panel. Next to the Creator label you'll see your name. If you didn't add your name while importing, you can still do so by typing in the adjacent text field.



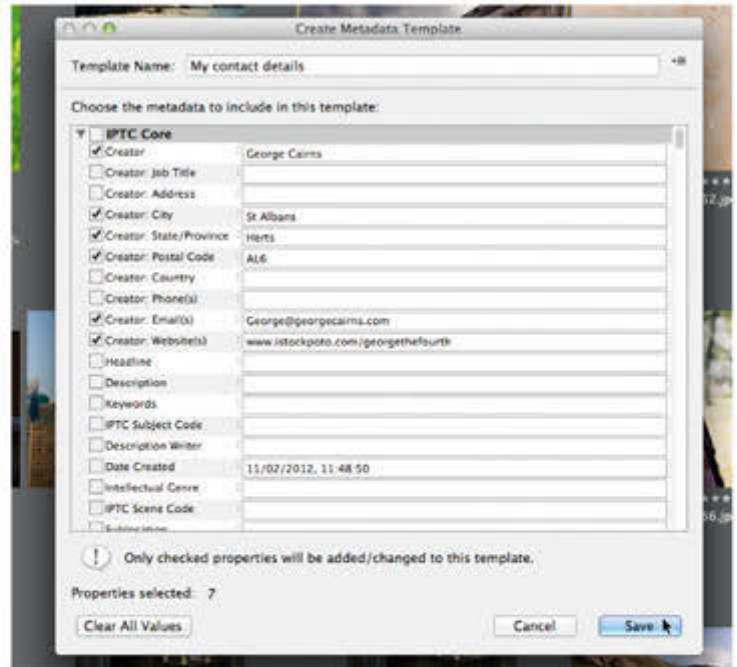
2 Assign your copyright

You can also add your contact and website details to the file's metadata by typing in the appropriate fields. Scroll down in the IPTC Core panel to find the Copyright Status pop-up menu. Choose an option such as Copyrighted. When the photograph is opened in Photoshop the image tab will display a © symbol, indicating that the image is copyrighted. Viewers of the image can go to File>Info and read the info that you've added.



3 Apply the changes

If your image contains a person or a place, then you can add the appropriate details in Bridge's IPTC Extension panel. This panel also enables you to inform viewers of the image if there's a model or property release form available, which is useful for purchasers of stock photography. Once you've finished editing the metadata, click anywhere outside the Metadata panel. You'll then be asked if you want to apply the changes. Click Apply.



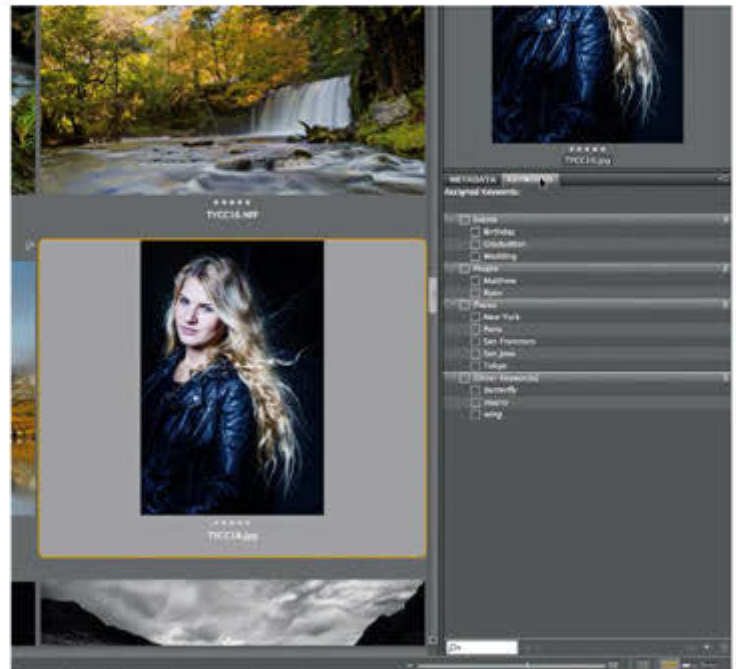
4 Create a metadata template

To speed up your workflow you can use Bridge to create a metadata template that contains useful generic information, such as your contact and copyright details. To do so, go to Tools>Create Metadata Template. Give the template a name, such as 'My contact details'. Type in the information. Any properties you add will automatically be checked. Click Save. You can create as many custom metadata templates as you like.



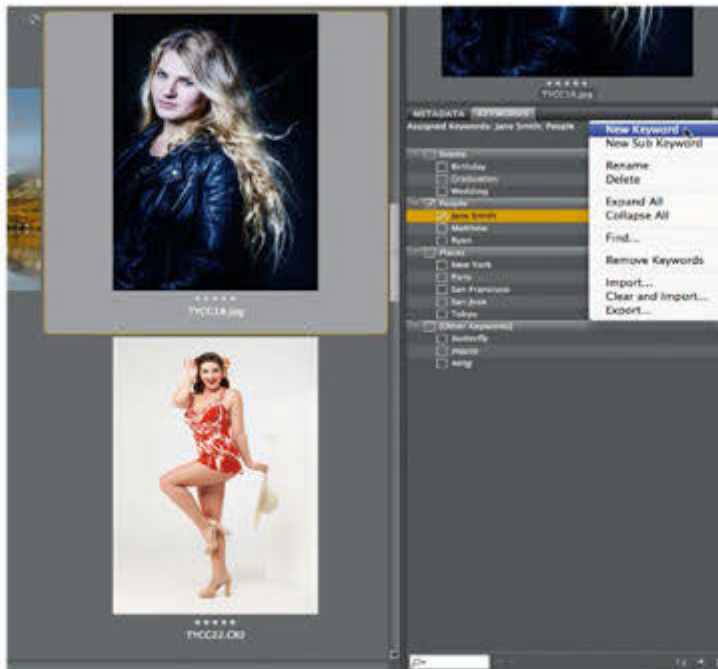
5 Batch process the metadata

Once you've created a custom metadata template you can apply it to multiple images. Shift-click to select a range of thumbnails in Bridge. Go to Tools and choose Append Metadata. You can then choose your custom metadata template. Your contact details will then be added to all the selected files in an instant. Click a thumbnail and check the Metadata panel's IPTC Core section to see the added information.



6 Add keywords

The IPTC Core panel also has a keyword field, so you can add a series of descriptive keywords to a particular file, such as macro, butterfly, leaf etc. You could also add common keywords, such as your name, to a metadata template. To help you add keywords quickly, Bridge has a Keywords panel adjacent to the Metadata tab. Here you'll find a collection of useful preset keywords, plus any that you've manually added to any images.



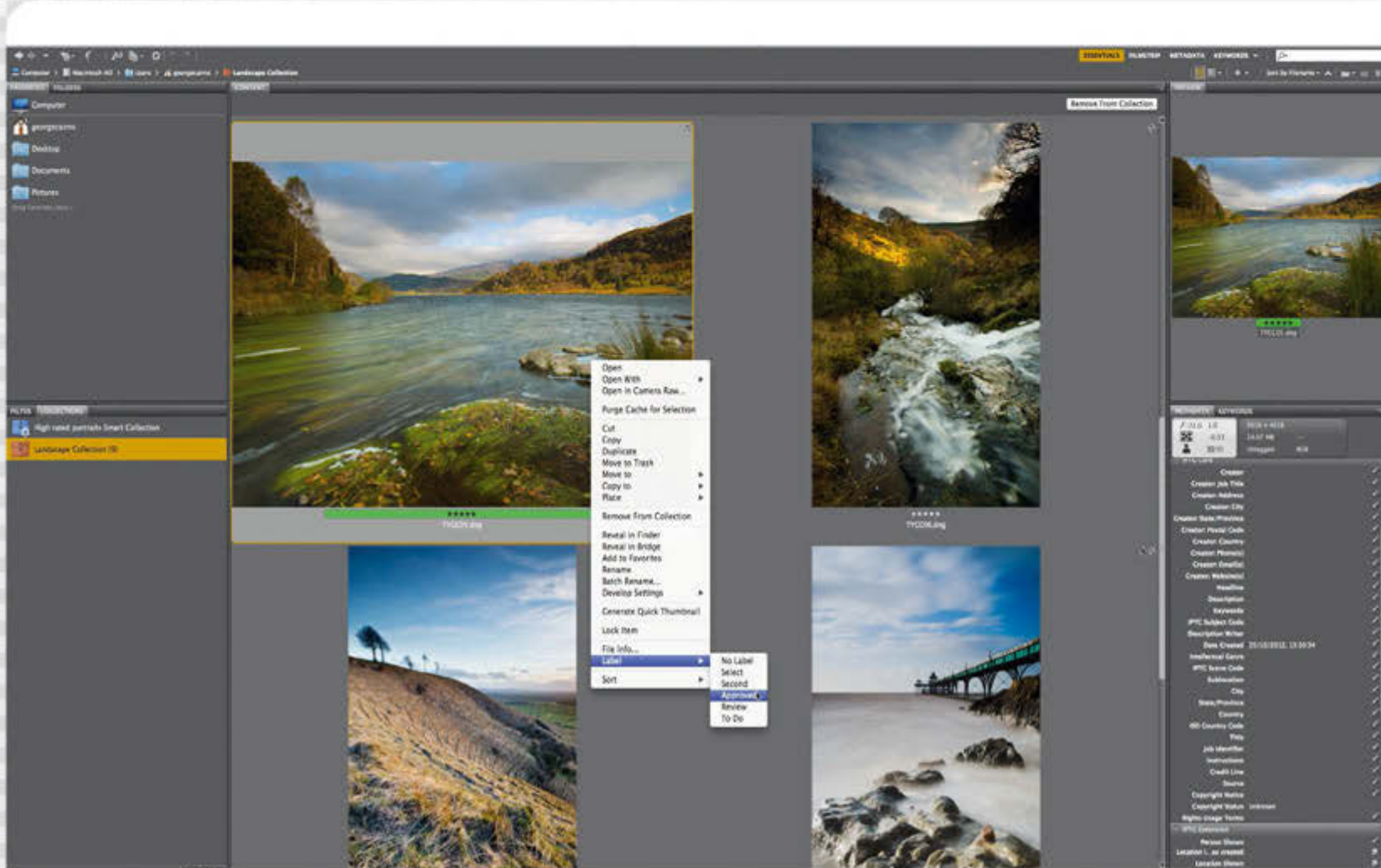
7 Create new keywords

To assign existing keywords to a selected image, tick the box next to a keyword category, such as People, or a subcategory, such as a person's name. If a keyword isn't available, click the fly-out icon at the top right of the Keywords panel and choose New Keyword. Type the keyword into the text field. Hit Enter. Drag the new keyword into a particular category. Tick the new keyword to assign it to the selected thumbnails.



8 Filter via keywords

To find images that contain a particular keyword, go to the Filter panel on the left of the Essentials workspace, then simply click a keyword in the list to display the appropriate thumbnails in the Preview window. You'll see a number next to each keyword that indicates the number of files that contain that particular keyword in their metadata. You can also type keywords into the Search field at the top right of Bridge's workspace. ■



Organise your images in Bridge

Use Bridge's asset management tools to help you find particular pictures quickly and easily using Collections

As we revealed on the previous pages, Bridge enables you to create and assign keywords to single images or batches of images so that you can find them with ease using filters. Keywords provide one of the most powerful and useful ways of helping you to locate specific photographs, although Bridge has other tools that will help you to organise your ever-growing library of images.

In pre-digital days we'd place our favourite prints into photo albums. These tended to gather and present images using particular themes, such as weddings or holidays, for example. In these digital days we have many more images

to manage, so we can end up scrolling through hundreds of thumbnails in search of a particular image. In this walkthrough we'll demonstrate how to use the old photo album model to collect themed images together so that they are easier to access, courtesy of Bridge's Collections panel. You'll also learn how to use the powerful Smart Collections feature to find photos according to specific metadata information, such as the shutter speed or camera model used to capture the images.

We'll kick off by demonstrating how to quickly separate the wheat from the chaff by assigning labels and star ratings to particular pictures.



1 Assign ratings

Click the Filmstrip workspace so that you can get a good look at each image when you click its thumbnail. If you like an image, you can click the star icons below a thumbnail to assign up to five stars. You can also assign star ratings by pressing Cmd/Ctrl+ a number between 1 and 5.



2 Label your images

You can also assign ratings by clicking the Label menu at the top of the workspace. There are also colour-coded labels that indicate the status of a file. If a picture is ready for print, you could apply a green Approved label. Images that require editing might have a purple To Do label.



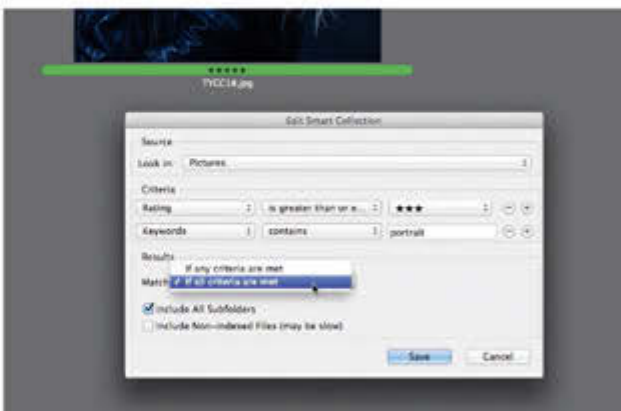
3 Filter your photos

Once you've assigned ratings and labels, you can search using them. Go to the Filter panel and click a coloured label to see all the files with that label. Narrow down your search by clicking other criteria such as a particular rating. You can also use the Filter items by rating option.



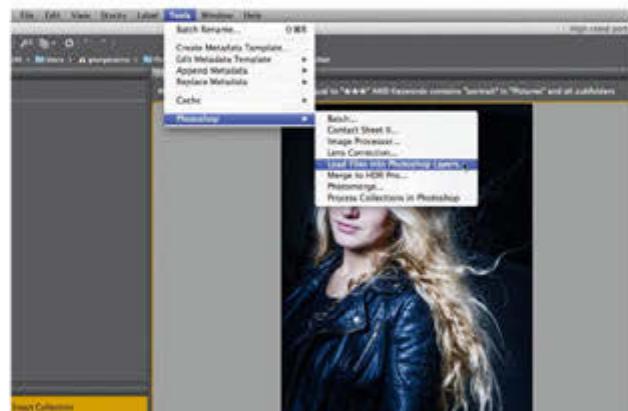
4 Create a Collection

To create an album-style Collection, click the Collections panel. Click the New Collection icon at the bottom. Label the Collection with an appropriate name, such as Landscape collection. Drag thumbnails from the Filmstrip into the Landscape collection's folder.



5 Create a Smart Collection

Click the New Smart Collection icon. Choose a Source for Bridge to look in. In Criteria, choose an attribute, such as Rating equals five stars. Click the + icon to add other criteria if necessary. Click Save. The Smart Collection will automatically gather appropriate images together.



6 Export to Photoshop

Once you've finished organising files in Bridge, you can double click to take a specific file into Photoshop. You can also go to Tools>Photoshop and use shortcuts that will jump-start a variety of Photoshop edits, such as placing two images into separate layers in the same document.

Teach yourself Raw in Photoshop

INTRODUCING THE CAMERA RAW EDITOR





The Camera Raw editor

Familiarise yourself with the controls in Photoshop's professional-level image-processing digital darkroom

20 Raw versus JPEG: which is the better format?
Discover the advantages of shooting and editing photos using your camera's raw format, compared with the JPEG format

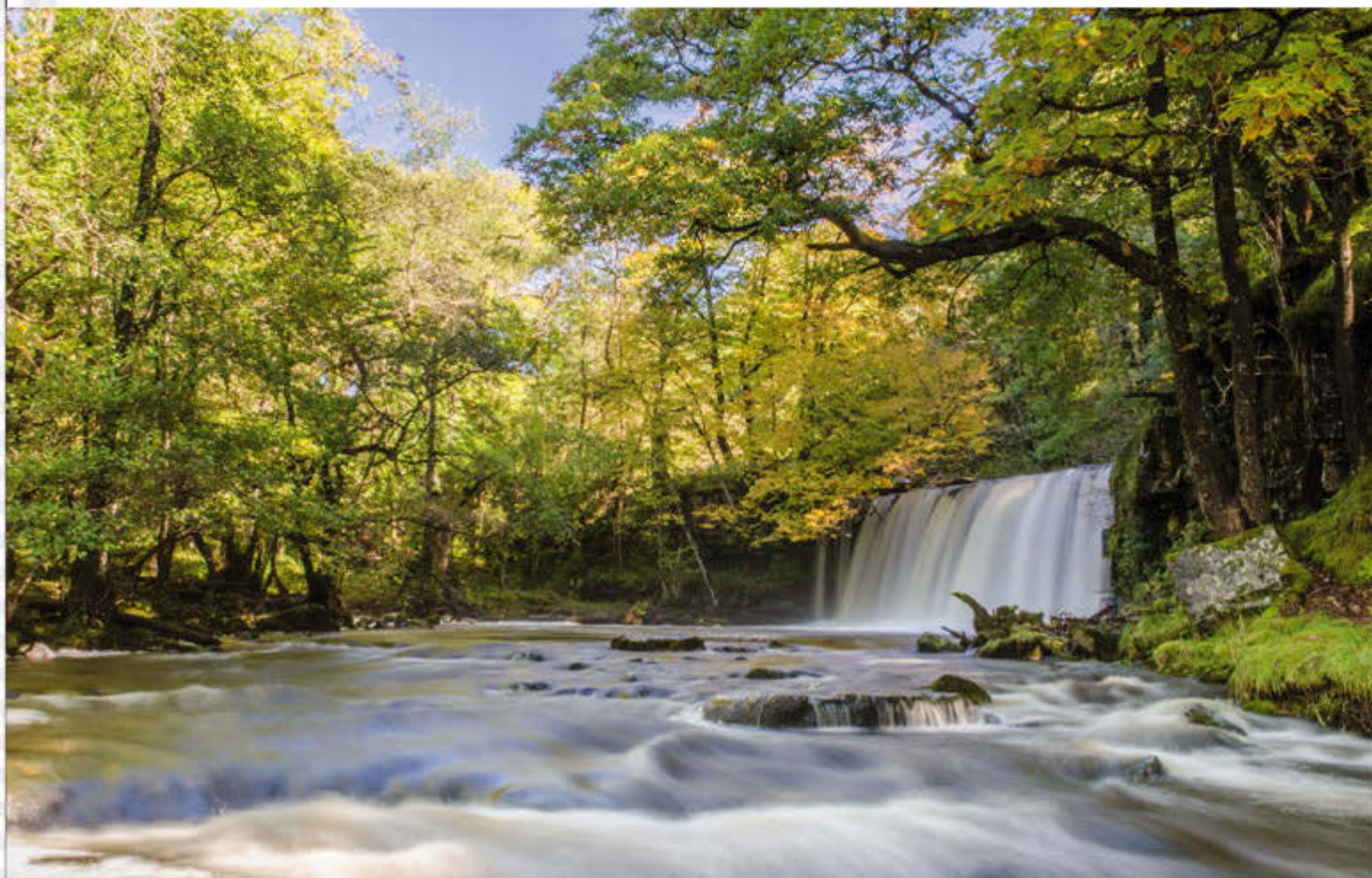
22 Introducing the Camera Raw panels
Learn how to fix common photo problems using the tools in the powerful image-processing panels in Camera Raw

24 Introducing the Camera Raw toolbar
Familiarise yourself with the wide range of picture-processing tools placed in the Camera Raw toolbar

26 Master preferences and workflow settings
Set up Camera Raw with your preferred colour space, bit depth and more to suit your image-processing requirements

28 A typical Camera Raw workflow
Discover how to open a raw file, fix its colour and tone problems, sharpen it for print, and then save the changes





Raw versus JPEG: what's the difference?

Discover the advantages of shooting and editing photos using your camera's raw format, compared with the JPEG format

When your camera captures an image, it saves it as a raw file or a JPEG. JPEG format images are compressed, so these files present a shorthand description of the colours and tones in the scene. If you shoot images using your camera's raw format, then the photos will be uncompressed, meaning much more information about the colours and tones in the images are captured.

Shooting in the JPEG format is comparable to snapping your subject with a Polaroid

camera. Once the image has been developed in-camera, you're stuck with the finished print. Shooting in raw format is like using print or slide film. You can take your negative into the darkroom and recover missing tonal detail more easily. Indeed, Adobe's raw DNG format reflects the nature of a raw file by calling it a digital negative.

Like traditional negatives, your DNG files need to be worked on before they look their best. This is why we refer to the Camera Raw workspace as the digital darkroom.

When you capture a photo as a JPEG, the camera applies processing settings to the image, and you risk adding unwanted artefacts such as noise and blocky pixelated areas when you try to improve the image. By shooting in raw, you have more freedom to make changes while preserving the quality of the image. For example, you can change the colour balance of a raw photo with a click, as if you were back on location experimenting with your camera's white balance presets. ■

Photoshop Anatomy Head to head

Get better-looking pictures by shooting and editing in raw

1 TONAL RANGE

When shooting a high-contrast scene, your camera will struggle to capture detail in the shadows and highlights at the same time. With a raw file you have a much better opportunity of restoring missing highlight or shadow details.

2 DRAB COLOUR

After brightening a JPEG's under-exposed areas, you'll notice that they lack colour information, even after boosting the Vibrance. A raw file will have more hidden colours for you to reveal in Camera Raw.

3 ARTEFACTS

In a JPEG version of a scene, compression artefacts can appear as jagged blocks or noticeable bands. In the raw version, the same area will be displayed as a smoother gradient.

4 NOISE

If there's an exposure problem with a JPEG, you'll struggle to restore tonal detail without adding artefacts such as noise. The processed raw version of a scene will feature less noise.



5 WHITE BALANCE

The whites in our processed JPEG look a little cold. The White Balance presets and Temperature slider in Camera Raw enable you to quickly get whites looking white, creating tint-free colours in the rest of the image.

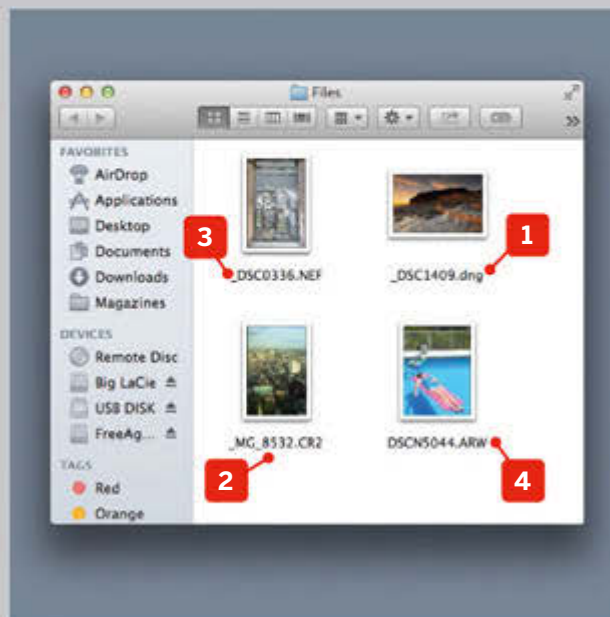
6 CLARITY

The Clarity slider in Camera Raw enables you to tease out more fine midtone detail, such as the textures in the water in this photo. It also adds contrast, creating a much punchier image.

Understanding... RAW FORMATS

Different camera manufacturers use different processing techniques to produce raw files, and the files created by the latest cameras may not be compatible with older versions of Photoshop. Adobe introduced the DNG (digital negative) raw format [1] to make it possible for photographers to open raw files using older versions

of Photoshop. Canon cameras save raw files with a CR2 suffix [2] (which stands for Canon Raw 2). Nikon cameras save raw files with a NEF suffix (Nikon Electronic Format) [3]. Some of the latest Nikon cameras produce NRW (Nikon Raw) files [4]. You can open any of these formats in Photoshop CC.



BELT AND BRACES

Like a traditional print or film negative, a raw file will need to be processed in Photoshop before it's ready to be shared. This will take time. You can set your camera to create a raw and JPEG version of a photo at the same time. The JPEG will feature the results of the camera's current scene mode. For example, the camera's Landscape scene mode will boost the saturation of natural colours such as blues and greens. You can instantly upload the processed JPEG to an online gallery or mail it to a client. If you need to make changes to the photo, then you have a high-quality raw file to work on at your leisure. You can also use the raw file to experiment with different looks and effects.

Introducing the Camera Raw panels

Learn how to fix common photo problems using the tools in the powerful image-processing panels in Camera Raw

If you open a raw file in Bridge or by using File>Open in Photoshop, Photoshop will recognise the file's raw format and automatically bring it into Camera Raw. This is your digital darkroom, with a collection of tools designed to help you process your photos.

In Camera Raw, you can claw back missing tonal detail caused by incorrect camera

settings, thanks to the extra information packed into an uncompressed raw file. You can easily correct problems with colour, too. Inappropriate or ineffective camera white-balance settings can produce washes of cold blue or warm orange. You can use the white balance presets in the Basic panel to experiment with different white balance settings and produce natural tint-free colours

with just a few clicks. Unlike a JPEG format file, your raw format file is free from the processing applied by the camera's chosen scene mode, so you can experiment with different looks much more easily.

We'll kick off by looking at the most commonly used image-processing tools in Camera Raw's Basic panel, and then move on to introduce the other tabbed panels. ■

Photoshop Anatomy The Basic panel

Fix common photo problems using the tools in this key panel



1 TABS

Click the icon on a tab to access its raw-editing tools. The Basic panel is selected by default because it features the most commonly required tools.

2 WHITE BALANCE

This basic drop-down menu enables you to access white-balance presets that will help you to produce natural-looking colours in various lighting conditions.

3 AUTO

Click here and Camera Raw will adjust the sliders automatically in an attempt to create a healthy spread of tones and tint-free colours.

4 EXPOSURE

This slider enables you to make global changes to the photograph's exposure in a similar way to opening or closing the camera's aperture on location. The value in the box equates to your camera's exposure compensation setting.

5 HIGHLIGHTS AND SHADOWS

These Basic panel Highlights and Shadows sliders enable you to target and fix specific tones, such as over-exposed highlights, without altering other parts of the photo.

6 CLARITY, VIBRANCE AND SATURATION

This separate panel section is designed to help you boost colour saturation. Vibrance is designed to boost weaker colours without over-saturating stronger ones, which helps you to keep the colours within a printable range.

Overview **Other key editing panels**

Discover other tabs that can help you to improve or creatively process your images



1 TONE CURVE

This tab gives you access to even more powerful tone-tweaking tools that enable you to make selective tonal adjustments by dragging sliders or manipulating points on a curve. It also has a collection of Point Curve presets.

2 DETAIL

This useful tab enables you to sharpen up a soft-looking photo to tease out more fine detail. This is an effective way of producing a print with more punch. You can also reduce the presence of colour and luminance noise in shots captured using a high ISO setting.

3 HSL/GRAyscale

This tab enables you to target and tweak the hue, saturation and luminance of specific colours. It also enables you to create a more effective monochrome conversion by using colour sliders to lighten or darken particular parts of the image based on their original colour information.

4 SPLIT-TONING

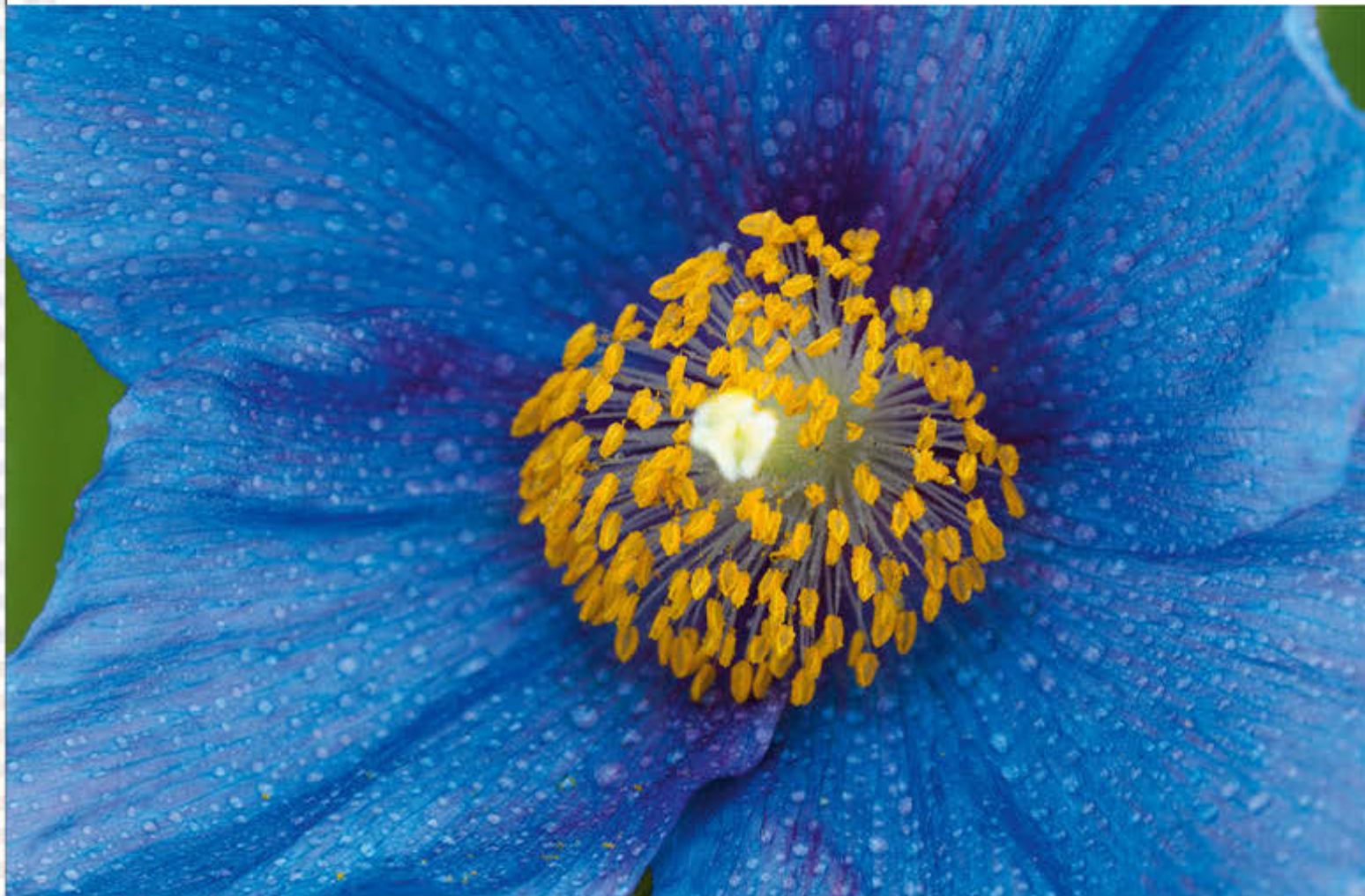
After desaturating a photo using the HSL/Grayscale tab, you can add washes of colour to the shadows and highlights to change the mood of the monochrome conversion.

5 LENS CORRECTION

This panel enables you to use lens profiles to correct lens-related distortions. It also features sliders to help you counteract distortions manually, and remove artefacts such as chromatic aberration.

6 EFFECTS

This panel enables you to mimic film effects by adding natural-looking grain. You can also add or counteract vignetted corners, and these darkening or lightening corrections will still be applied evenly to the corners even after you crop the image.



Introducing the Camera Raw toolbar

Familiarise yourself with the wide range of picture-processing tools with the icons placed on the Camera Raw toolbar

In a traditional print darkroom, a photographer would have access to a collection of tools that enabled him to tweak the colours and tones of a negative to produce a well-exposed print. For example, by placing bits of card between the enlarger and the photo paper, a photographer could vary the amount of light hitting the paper and create selective exposures that revealed detail in lighter or darker parts of a scene.

Camera Raw has a toolbar that's packed full of tools that do similar jobs to those tools offered by the traditional darkroom. The advantage of working with Camera Raw tools is the fact that the adjustments that you make are non-destructive. If a traditional darkroom photographer makes a mistake, he has to throw away the exposed photo paper and start from scratch. A Camera Raw user can experiment with more freedom, such as trying out different compositions using the

Crop tool and then reverting the image to the original composition (even if he closes and then re-opens the processed raw file). A raw file's original information can't be destroyed or altered by any of the Camera Raw tools and panels. Camera Raw simply records the changes that you make using its tools, and then applies them to the raw file when you re-open it. Here we'll introduce you to the key image-processing tools in Camera Raw. ■

Photoshop Anatomy **The toolbar**

Get to know the key digital darkroom tools Camera Raw offers

1 WHITE BALANCE

This tool enables you to fix a white-balance problem by sampling something that should be white. If the sampled pixels are too warm, the tool will cool down the colours to make whites look white. This will remove colour casts from the rest of the photograph.

2 TARGETED ADJUSTMENT

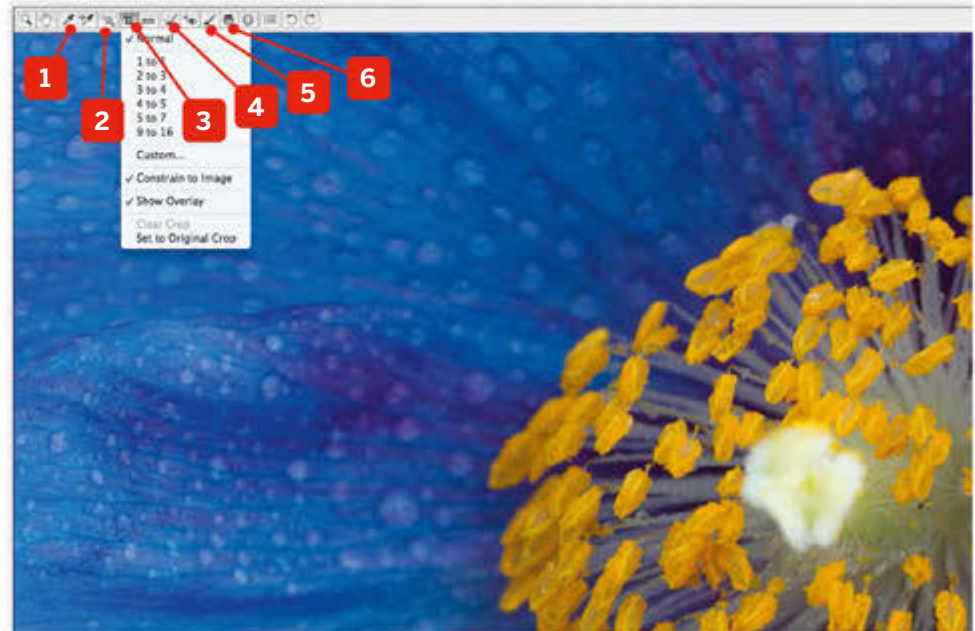
This powerful tool enables you to adjust the tones of a particular area of the image. Click the image and drag upwards to lighten the tones, or downwards to darken them. You can set the tool to selectively adjust colour saturation too.

3 CROP TOOL

This enables you to improve composition by removing some of the edges of the frame. The tool is non-destructive, so you can restore missing edge details at any time. Hold down the mouse button on the Crop tool icon to modify the way it behaves. The neighbouring Straighten tool enables you to counteract tilted horizons.

4 SPOT REMOVAL

This tool enables you to hide unwanted image elements such as sensor spots in skies or spots on the subject's face in a portrait. It's the Camera Raw version of the main editor's Clone Stamp and Healing Brush tools.



5 ADJUSTMENT BRUSH

This tool enables you to make selective brush-based adjustments, such as lightening (dodging) or darkening (burning). Unlike traditional darkroom dodge-and-burn tools, you can modify the results produced by these digital versions.

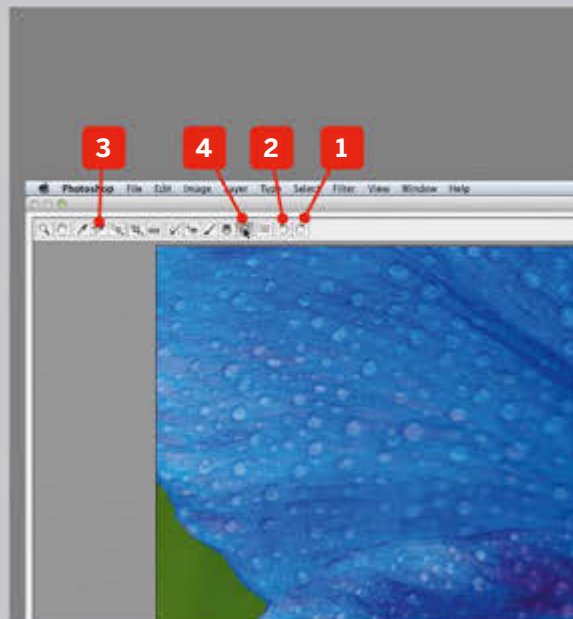
6 GRADUATED FILTER

This tool acts like a graduated neutral density filter on a camera's lens, enabling you to darken bright skies without blowing out a correctly exposed landscape. Alternatively, you could use it to brighten an under-exposed landscape without over-exposing the sky.

Understanding... OTHER RAW TOOLS

If you rotate the camera to shoot in portrait or landscape orientation, the image will need to be displayed the right way up. Most digital cameras will store the orientation of the camera in the metadata of a photo so that it will automatically be displayed correctly in Camera Raw. However, you can also click to

rotate the photo in a clockwise [1] or counter-clockwise [2] direction. The Color Sampler [3] enables you to discover the RGB values used to create the colour of an area. If the resulting RGB values are equal, the sampled colour is a shade of grey. The Radial Filter [4] is like the Graduated Filter, but it creates a circular gradient.



XMP

When you process a raw format image such as a Canon CR2 file or a Nikon NEF file in Camera Raw, Photoshop creates a sidecar XMP file that stores all the Camera Raw tool and slider settings used to adjust the image. When you re-open the image at a later date, this XMP file ensures that the settings are as you left them. You can then continue fine-tuning the raw file at your leisure. If you share the raw file, but forget to include the XMP file, then the settings won't be applied. However, if you save your edited raw file using Adobe's cross-platform DNG (digital negative) file format then the changes made by the tools and panel sliders will be stored within the DNG.

Master workflow and preferences

Set up Camera Raw with your preferred colour space, bit depth and more to suit your image-processing requirements

Before processing your photos in Camera Raw, it's worth taking a little time to set up the preferences and tailor its workflow options to suit your specific image-editing needs. This enables you to speed up the way you work, and produce more effective results.

For example, if you plan to print your pictures, you'll benefit from setting up a

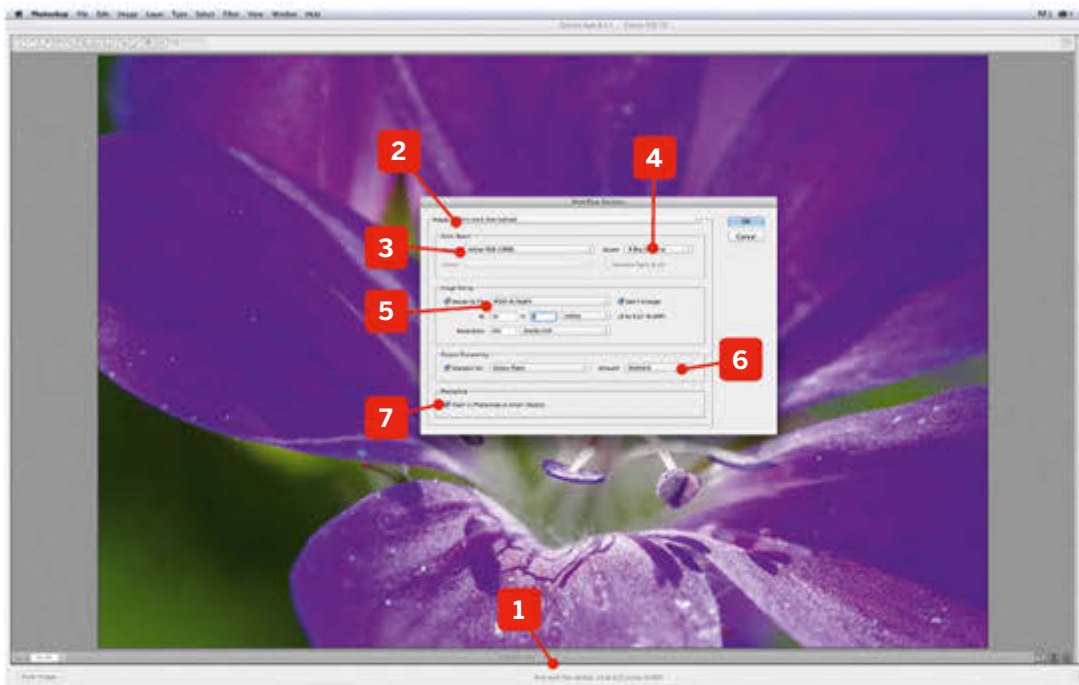
Camera Raw colour space that produces printer-friendly colours. Your PC displays millions of colours by mixing the red, green and blue channels together. Printers, on the other hand, create a narrower range of colours by mixing cyan, magenta, yellow and black. Set up Camera Raw to use a printer-compatible colour space, such as Adobe RGB (1998), and the prints of your carefully edited

images will look more similar to the on-screen versions.

You can also modify the Camera Raw preferences to speed up your workflow. This enables you to adjust the default settings so that Camera Raw will automatically apply tonal adjustments when you open an image, for example. We'll kick off by setting up print-friendly and web-based workflows. ■

Photoshop Anatomy Workflow options

Set up workflow presets to meet various image-editing challenges



1 WORKFLOW

Click here to open the Workflow Options window. The edited workflow settings will replace the Camera Raw default values.

2 PRESET

Click here and choose New Workflow Preset. A New Workflow Preset window will appear. Type in a suitable workflow name such as Print or Web. Click OK.

3 COLOR SPACE

Click here to choose a colour space. If you're editing for print, choose Adobe RGB (1998). If you're editing your work for digital display, choose sRGB.

4 DEPTH

To access more information in your raw files, consider increasing the Bit Depth to 16/Bits Per Channel, although this will reduce the number of menu commands you can apply in the main Photoshop editor.

5 RESIZE

If you're editing a series of photos that are destined for print, set Camera Raw to automatically resize them to typical print-friendly dimensions. You can also choose a high resolution to pack the print with detail.

6 SHARPEN

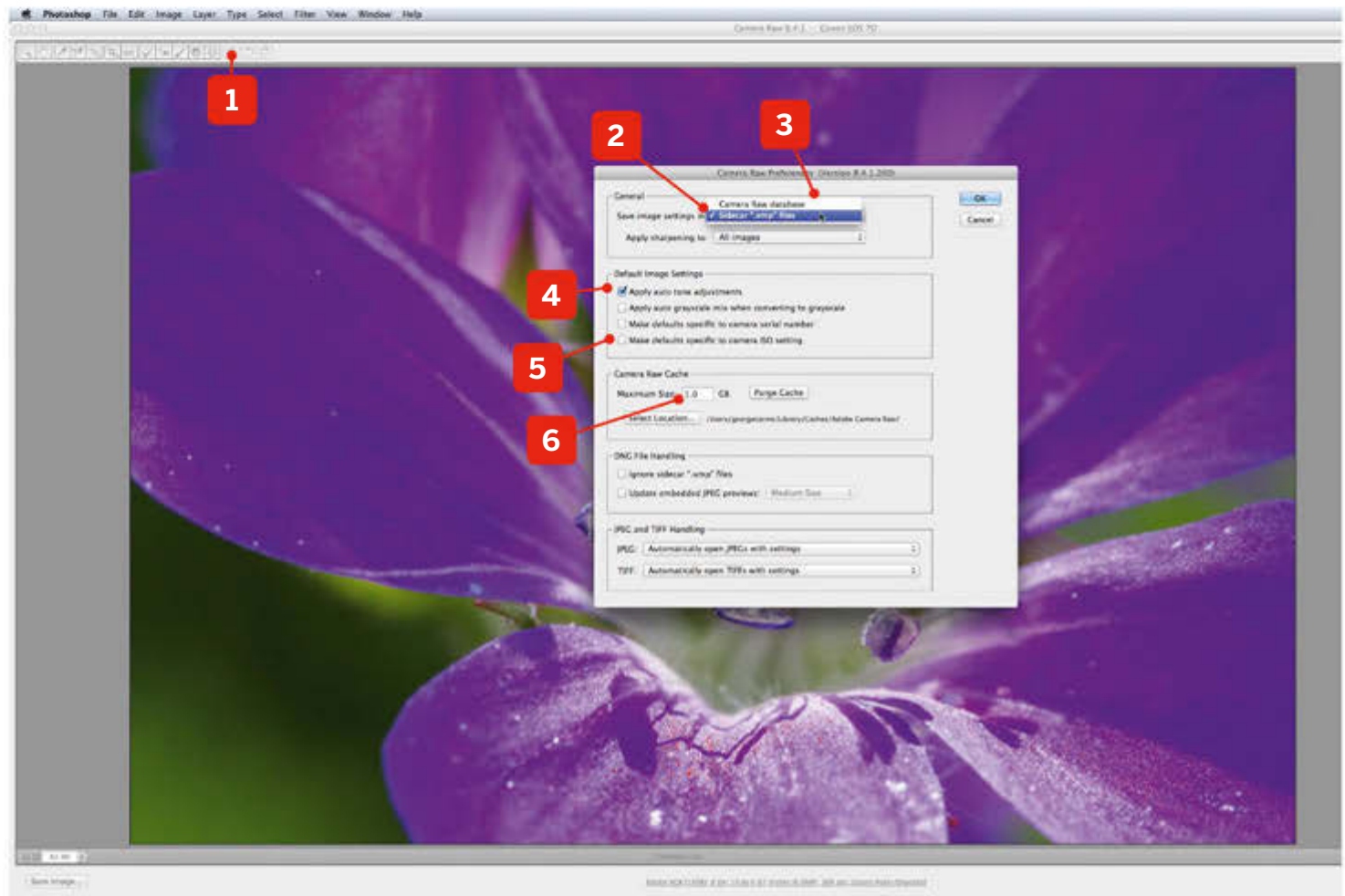
A little sharpening will give printed pictures more impact. Choose a suitable paper type and sharpening amount from the drop-down menu in this section of the Workflow Options window.

7 SMART OBJECTS

Once you open a raw file in Photoshop, it behaves like an ordinary JPEG. By ticking this box, you can edit the photo in Photoshop and then re-open it in camera Raw to fine-tune. To override this preference for specific images, press Shift when you click Open Image.

Overview Choose your preferences

Customise the way Camera Raw behaves to suit your way of working



1 PREFERENCES

To access the Camera Raw Preferences window, click here in the toolbar. Alternatively, you can summon the Camera Raw Preferences window while working in Photoshop by going to Preferences>Camera Raw.

2 SIDECAR

Any Camera Raw slider or tool-related changes you make are recorded in an XMP file that's stored in the same folder as the raw file. If you move the raw file, you need to move the XMP file too, to preserve the changes to the image.

3 DATABASE

You can store a record of any adjustments made to a raw file in a database on your Mac or PC. This database is indexed by file content, so the image will retain Camera Raw adjustments even if the raw file is moved or renamed.

4 AUTO TONE

Tick this box to have Camera Raw analyse the exposure of the image and automatically adjust the sliders in the Basic panel to try to create a healthier spread of shadows, midtones and highlights.

5 DEFAULTS

You can customise the Noise Reduction settings to apply different amounts of default smoothing to photos captured with fast or slow ISO speeds.

6 CACHE

The cache stores information about changes made in Camera Raw, which helps speed up the opening of images in Camera Raw. It also rebuilds previews in Bridge when an image is adjusted in Camera Raw.

The Camera Raw workflow

Discover how to open a raw file, fix its colour and tone problems, sharpen it for print, and then save the changes you've made

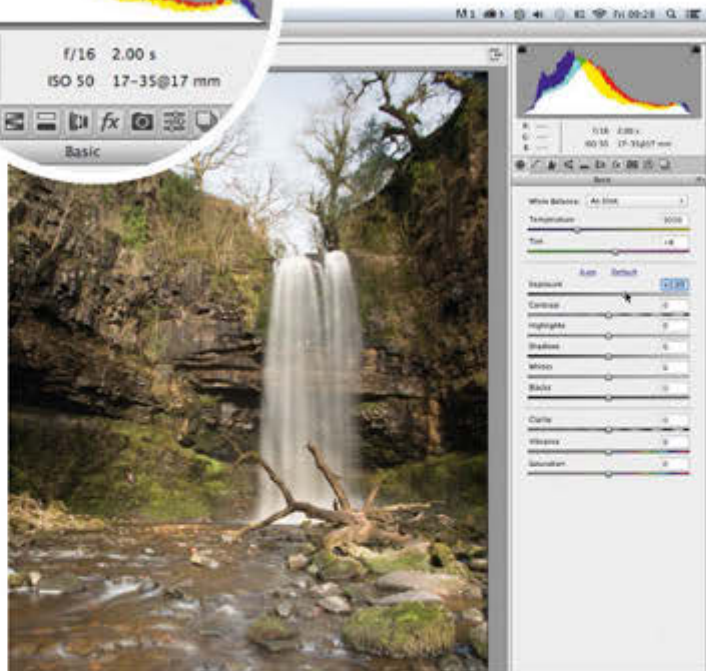
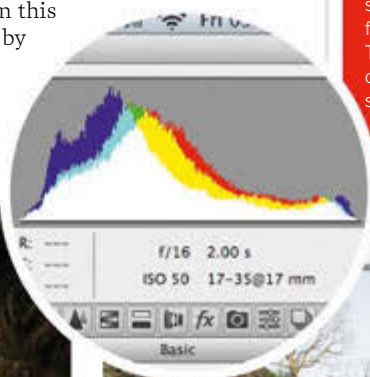
All the information about the colours and tones in a scene are contained in the raw file, but you'll need to do some work to display tones that are missing in darker or brighter areas. You may also find that colours suffer from a warm or cool tint due to incorrect white-balance settings used by the camera at the time of capture.

In this tutorial we'll show you a typical photo-fixing workflow that will demonstrate

the ways you can use to analyse a raw file for typical exposure and colour problems, and then correct them using the sliders in the Basic panel. Once your processed photo looks more like the scene did on location, you can build on this basic workflow by applying more complex tools and effects to the image. ■

SAVING OPTIONS

Once you've improved your photo, you have a variety of choices. Click Done to record the slider changes and store them with the raw file, so you can fine-tune them at a later date. To continue editing the image in Photoshop, choose Open Image. To save a JPEG version to share online, click Save Image. Set the Format drop-down menu to JPEG and click Save.

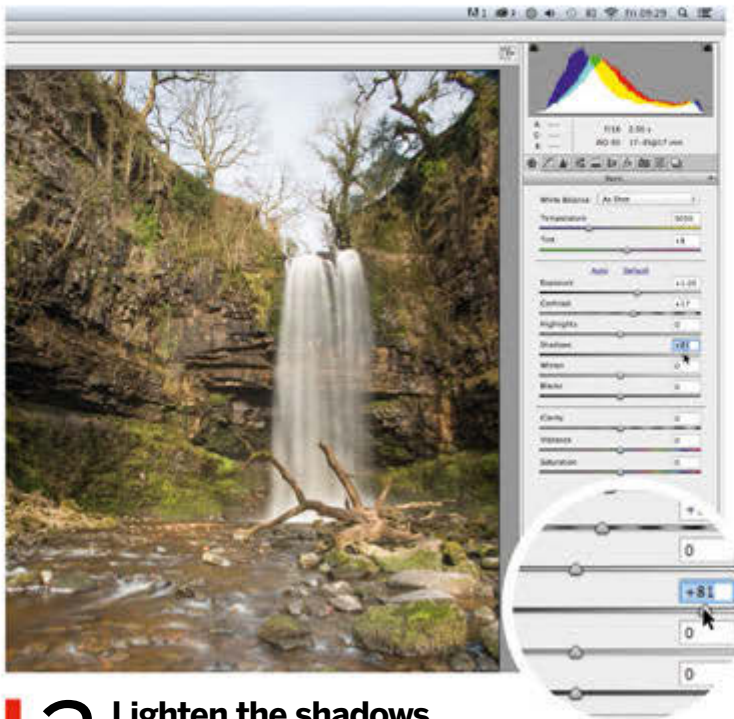


1 Open the image

If you're using Bridge, right-click the supplied starting image and choose Open in Camera raw from the context-sensitive pop-up menu. Alternatively, if you're in Photoshop choose File>Open. Browse to the starting image and click Open. The file is a DNG (digital negative), so it will automatically open in Camera Raw. The shot looks underexposed, the contrast is flat, the colours are drab and the water looks warm and muddy.

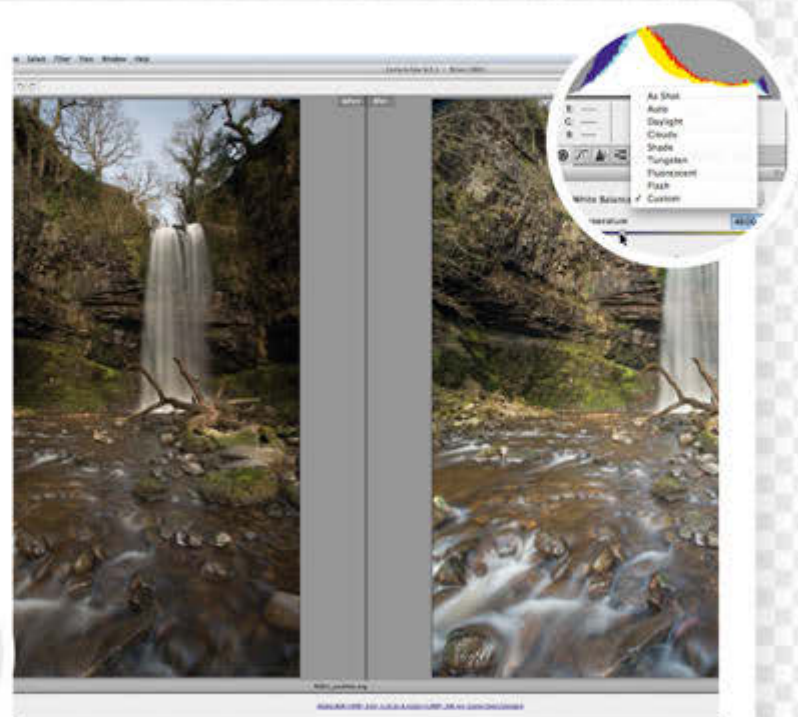
2 Boost the exposure

To understand the exposure problem more clearly, take a look at the Histogram panel. In this instance, the graph is clumped towards the shadows on the left, with no strong highlight information on the right. This is a typical histogram shape for an under-exposed photo. By dragging the Exposure slider right, the graph's under-exposed tones slide towards the highlights, creating brighter highlights in the image. A value of +1.5 does the trick in this instance.



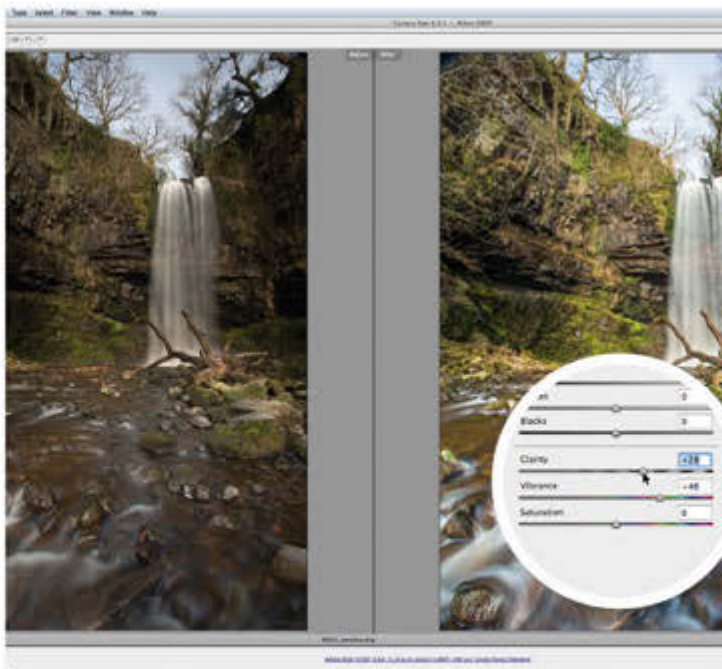
3 Lighten the shadows

Our photo now has a wider spread of tones, but the shadows lack detail. You can selectively target tones like these by dragging the Shadows slider right to +81. If a photo's highlights were too bright, then you'd drag the Highlights slider left to claw back missing detail. Camera Raw enables you to make effective selective tonal adjustments and create a stronger contrast. Drag Contrast to +17 for slightly blacker shadows and whiter highlights.



4 Improve the colour

If the colours look too warm or cold you can experiment with different white-balance presets to produce whiter whites. This will create more natural-looking tint-free colours in the rest of the image. For this image, manually drag Temperature left to 4600K to cool down the warm colour and create neutral, less muddy-looking whites. Press Q to cycle the Before and After views.



5 Increase Clarity

When you reveal tones in under-exposed scenes, the colours can look drab. Pop down to the last section in the Basic panel and drag Vibrance right to +46. This boosts blues and greens in nature shots (while avoiding over-saturating warmer skin tones in portraits). In the same section you'll find the Clarity slider. Use this to boost midtone contrast and tease out fine details and textures. A value of +28 will do the trick in this example.



6 Sharpen the image

Camera Raw applies a little post-production sharpening to your image. If you plan to print your photo, you can give the hard copy extra impact by sharpening it a little more. Select the Zoom tool and right click to see the image at 100%. This enables you to see how sharp it is. Go to the Detail tab and increase the Amount slider in the Sharpening section to around 44. You're now ready to save your processed picture. ■





Camera Raw basic editing

Learn how to open and process multiple raw files and perform basic image-editing transformations

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Discover how to use the Histogram window to analyse the spread of tones in a raw image, and then fix any exposure problems

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Save time and effort by opening and processing multiple photos taken at the same time in the same lighting

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Target and tweak the hue, saturation and brightness of specific regions of a photo using the Targeted Adjustment tool

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Discover how to save your edited photos in different image formats at different sizes to suit your file-sharing needs





The magnifier & grab tools

Work more effectively on particular parts of a raw file with help from the Camera Raw image-navigation tools

To successfully improve your raw files, you'll need to get to grips with the Camera Raw navigation tools. For example, if you look at a raw file on your camera's LCD display, it may look nice and sharp. However, the file may be actually soft due to the camera's inability to find a focal point, or because of a shallow depth of field caused by a wide aperture setting. You can only discover how soft or sharp a photo really is by opening it in Camera Raw

and then magnifying the image to see its actual pixels.

As with the Photoshop workspace, Camera Raw has a toolbar that contains a Zoom tool. This navigation tool enables you to magnify the image in a series of increments so that you can take a closer look at soft-focus areas, or tackle retouching challenges more easily such as cloning out a small but unsightly sensor spot. There are a range of techniques that enable you to jump to a

closer look of a particular section of a raw file, and we'll cover all of these in our annotated image on the next page. You can then experiment and decide which zooming method you prefer.

Once you've zoomed in for a closer look, you'll need to pan around the magnified image to discover more problematic areas to fix. The Zoom tool works in tandem with the Hand tool, so you can scrutinise and edit the pixels of your picture quickly and effectively. ■

Photoshop Anatomy Navigation tools

Take a closer look at any part of a picture

1 ZOOM TOOL

If you need to take a closer look at an area, click this icon in the Camera Raw toolbar to activate the Zoom tool. Alternatively, press Z to summon it with the keyboard shortcut.

2 HAND TOOL

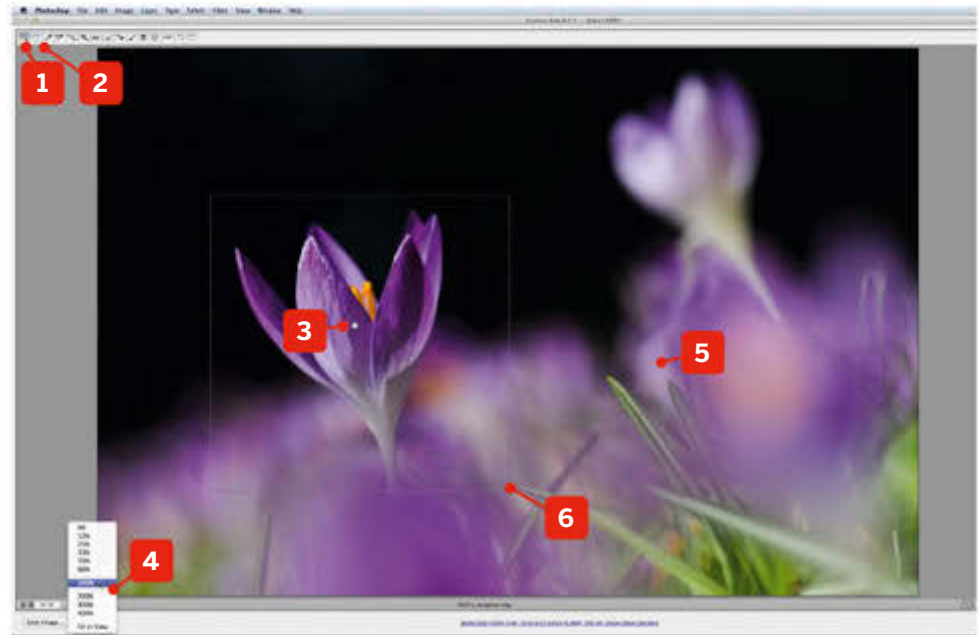
Once you've magnified the image using the Zoom tool, click this icon to summon the Hand tool (or press H). You can temporarily summon the Hand tool when using any other tool by holding down the space bar. Let go of the space bar to jump back to the previously active tool.

3 DRAG

When the Hand tool is active, this icon will appear over the cursor. Drag the mouse to pan the magnified image in any direction.

4 ZOOM LEVEL

Click the plus or minus icons to zoom in or out in increments, type a specific percentage value into the field, or click the pop-up menu and choose a magnification percentage.



5 CONTEXT-SENSITIVE MENU

Right clicking with the Zoom or Hand tools summons the Zoom Level window wherever the cursor happens to be, which saves your cursor a trip down to the bottom left corner of the workspace.

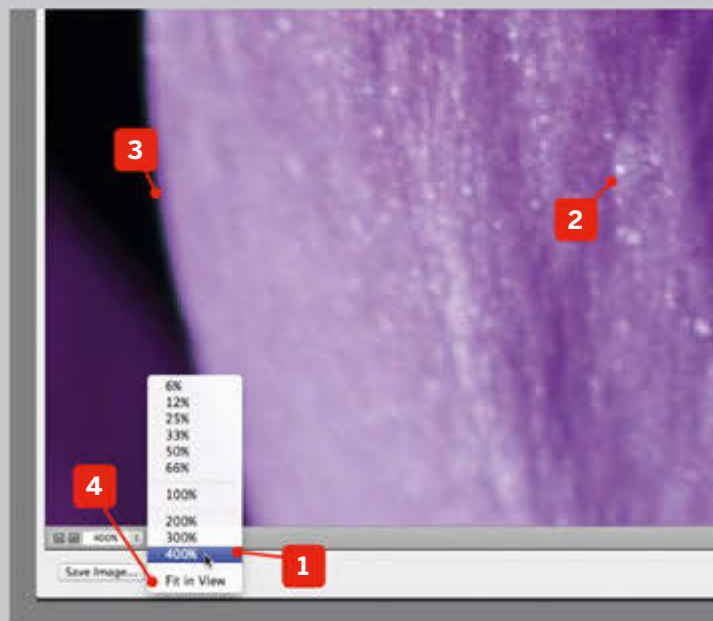
6 SPECIFIC ZOOM

The Zoom Level commands enable you to magnify the image in specific incremental jumps. To zoom into a specific object or area of the image, drag a rectangle with the Zoom tool.

Understanding... MAGNIFIED PIXELS

The maximum magnification that you can achieve using the Camera Raw Zoom Level options or the Zoom tool is 400% [1]. At this extreme magnification, you can see the blocks of colour and tone [2] that create the image. Each photo is made up of millions of these pixels (hence the

term, megapixel). Although each pixel is square, they are small enough to create smoothly curved shapes when viewed at a lower magnification such as 100% or Fit in View [4]. When editing an image in Photoshop, you can zoom into a massive 3200%, which gives you a much closer look at the pixels.



KEYBOARD SHORTCUTS

When working with any tool in Camera Raw, you can zoom in by simultaneously pressing Cmd/Ctrl and the + key, or zoom out by pressing Cmd/Ctrl and the - key. To quickly zoom into 100% magnification, double click the Zoom tool icon in the Camera raw toolbar. In Photoshop's General Preferences menu, you can tick a box that enables you to zoom in using your mouse's scroll wheel, but this option doesn't work in Camera Raw.

Use the Histogram to assess exposure

Discover how to use the Histogram window to analyse the spread of tones in a raw image, and then fix any exposure problems

One of the main challenges we face when taking a photograph is to meter the scene to capture detail in the shadows, midtones and highlights. After capturing an image, you may discover that it's under- or over-exposed. Some cameras enable you to summon a Histogram graph in the camera's Live View display when setting up the shot. This graph

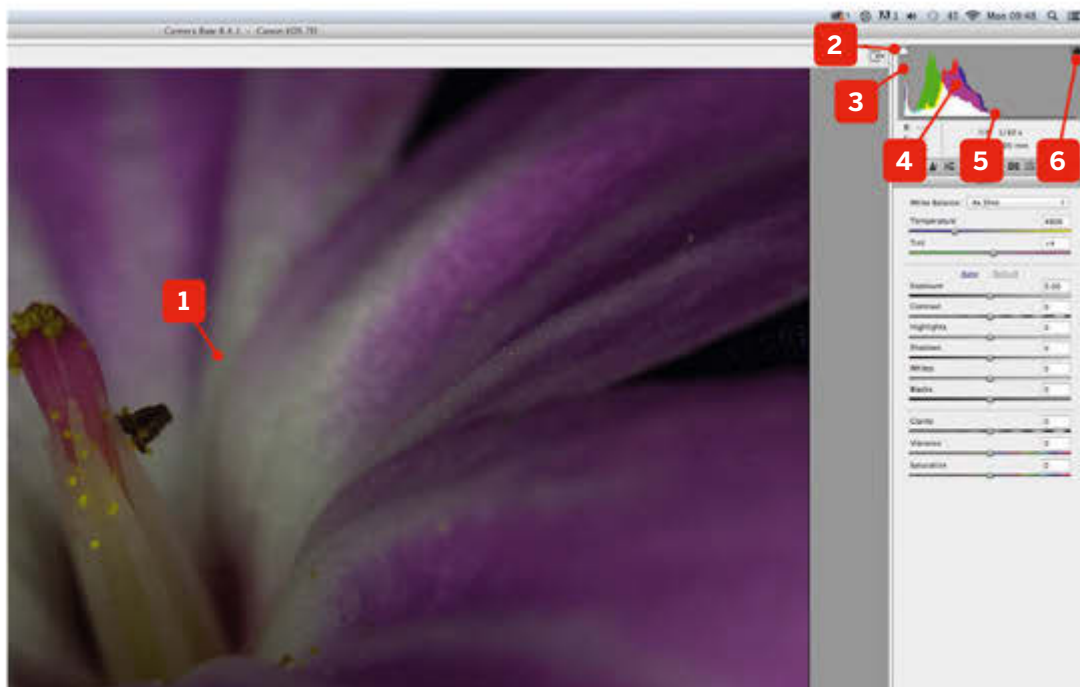
demonstrates the spread of tones in the scene. A correctly set camera should display a histogram graph that spreads from the far left (where the darkest shadows are) to the far right (where the brightest highlights are).

Despite your best efforts, you may capture an image that has exposure problems, such as our under-exposed starting image. Camera Raw's Histogram window enables you to

analyse the spread of tones in a picture so that you can see precisely where the exposure problems are. You can then use the Histogram window to help you create a wider spread of tones that reveals missing detail and creates more contrast. In our first annotation, we'll look at how to analyse our under-exposed photo's histogram, before moving on to fix it in the second annotated image. ■

Photoshop Anatomy The Histogram

Discover the exposure problems in any image



1 OPEN IMAGE

Choose File>Open, browse to our PMZ61_histogram starting image. It will open in Camera Raw. It looks under-exposed to the naked eye.

2 SHADOW CLIPPING

Click the Shadow Clipping warning to reveal clipped (under-exposed) shadows as patches of blue.

3 SHADOWS

The shot has plenty of midtone and shadow information. The strength of the darkest shadows are represented at the far left.

4 GRAPH

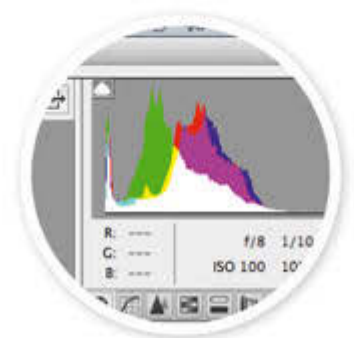
The undulating graph shows the strength and spread of the shadows, midtones and highlights in the image.

5 HIGHLIGHTS

The brightest highlights peter out in the middle of the histogram. In a well-exposed photo, they'd stretch to the far right.

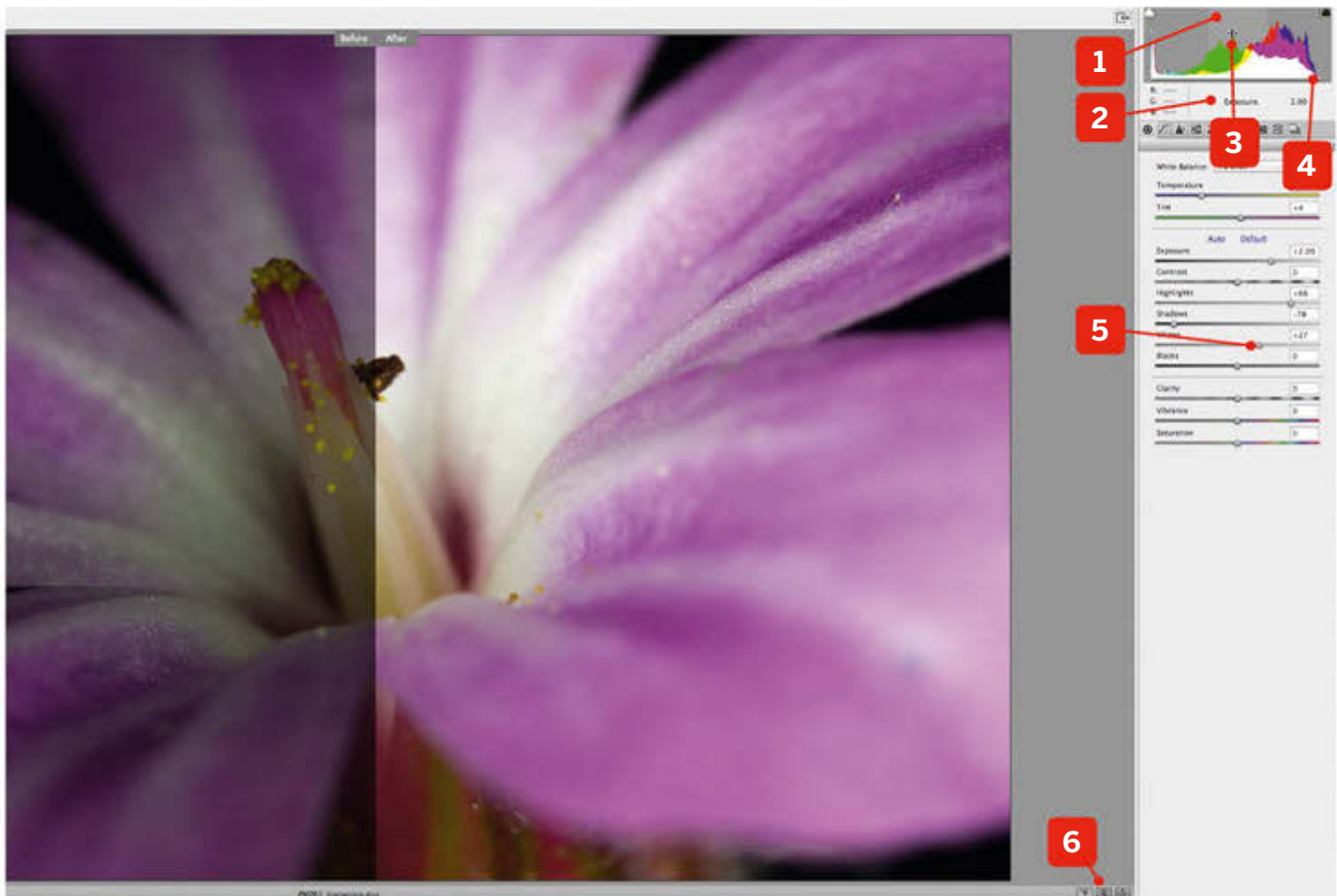
6 HIGHLIGHT CLIPPING

Click the Highlight Clipping warning to reveal clipped (over-exposed) highlights as patches of red.



Overview Create a correct exposure

Adjust the spread of tones in the histogram graph



1 REGIONS

Place the cursor on part of the graph, and you can see which tonal region is being represented as a lighter grey bar.

2 EXPOSURE

In this example, we've placed the cursor on the part of the histogram graph that represents the tones controlled by the Exposure slider.

3 DRAG

By dragging right inside a specific region (such as Exposure) you can slide the graph right toward the highlights. This also increases the value of the Exposure slider.

4 REMAP

By boosting the Exposure and Highlights you remap the under-exposed midtones and highlights and give them brighter values. The graph now stretches further to the right, indicating a wider spread of tones.

5 WHITES

You can target and tweak a narrow range of tones by using sliders such as Whites. This slider brightens the lightest pixels without interfering with tones in the rest of the image. A correctly exposed photo should have some black shadows and white highlights for a strong contrast.

6 BEFORE AND AFTER

Click here to toggle through the various before-and-after views so you can compare your adjusted image with the original.



Batch process your images

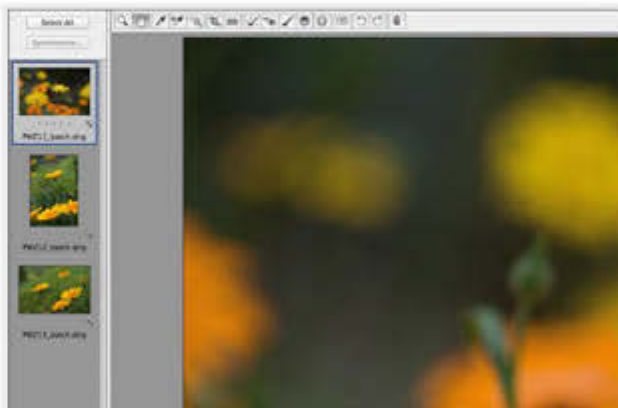
Save time and effort by opening and processing multiple photos taken at the same time in the same lighting

When shooting a series of shots in the same lighting conditions (and using identical camera settings), you may end up with a collection of images that have similar problems with colour and tone (such as our under-exposed starting images). You could open each image in turn and manually tweak its colours and tones, but this would be rather time-consuming.

Because our collection of images have similar problems we can use the Basic Camera Raw sliders to apply the same tonal and colour adjustments to every shot in the series and they'll look consistently better. Adobe understand that most photographers would prefer to spend more time taking photographs and less time editing them, which is why Camera Raw enables you to batch process multiple photos at the same time.

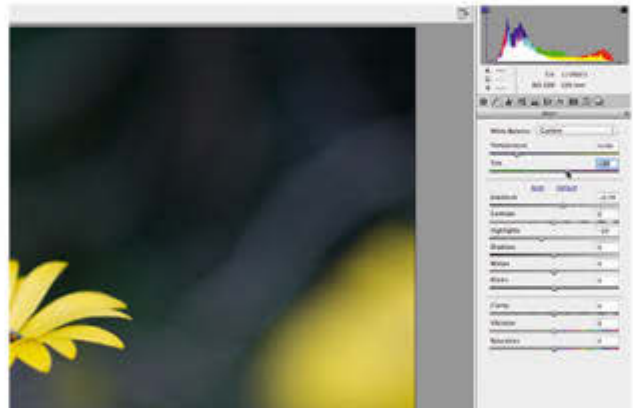
As you'll see from our walkthrough, Camera Raw enables you to make manual adjustments to a photo that is representative of the problems in a batch of similar images, and it will simultaneously apply the adjustments to all of the open files. If necessary you can then look through the batch-processed files and fine-tune the adjustments to suit their individual needs.

BEFORE



1 Open the images

In Bridge, Shift click to select our batch of three start images - PMZ11_batch DNG, PMZ12_batch DNG and PMZ13_batch DNG. Alternatively, in Photoshop choose File>Open and Shift click to select the three files. Click Open. The open files' thumbnails will be visible in Camera Raw.



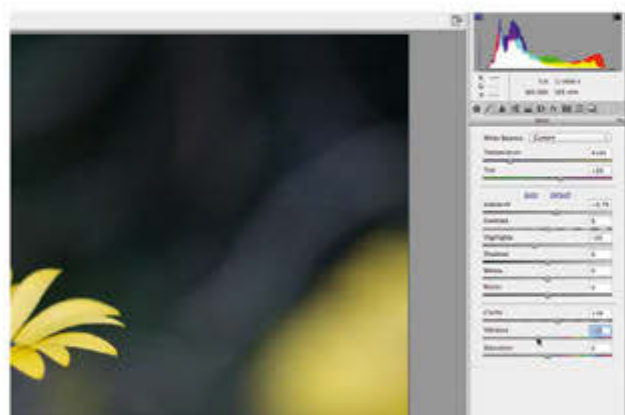
2 Tweak the colour and tone

Click PMZ11_batch DNG. Click Select All to include the other images. Drag Exposure up to +0.70 to brighten up the under-exposed image. Pull Highlights left to -20 to avoid blowing out detail on the brighter petals. Cool the Temperature to 4100 and drag Tint to +20.

BEFORE



BEFORE



3 Reduce Vibrance

Boost Clarity to +16 to increase contrast and reveal fine details. For more natural-looking colours, drag Vibrance down to -15. Vibrance selectively reduces the saturation of the stronger colours without desaturating the weaker ones. This helps to keep the colours printable.



4 Fine-tune individual images

The changes will be applied to all the files. Click the other thumbnails to see if they need fine-tuning. The other two images are slightly brighter, so tweak their Exposure to -65. Drop Highlights to -70. Click the Before and After icon to see how the edited images compare.

Improve colour & tone locally

Alter the hue, saturation and brightness of specific regions of a photo using the Targeted Adjustment tool

Camera Raw is packed full of tools and sliders that enable you to selectively target and adjust properties such as colour or tone. However, it can be quite daunting to decide which tool to pick or slider to adjust. The beauty of the Targeted Adjustment tool is that you can click a particular area to sample it, and then drag to adjust a range of properties.

The Targeted Adjustment tool will tinker with the Parametric Curve, which you'll find in the Tone Curve

panel. This panel provides you with a powerful way to adjust specific tones, but you can get carried away and end up blowing out highlights or clipping shadows if you're unfamiliar with curves. The Targeted Adjustment tool enables you to tweak curves without using the sliders in the Parametric Tone Curve panel, so it's more intuitive to use.

We'll show you how to tweak colour hue, saturation and general tones simply by clicking them and dragging the cursor up or down.



1 Brighten the highlights

Open PMZ61_targeted DNG. Click the Targeted Adjustment tool in the Tools panel. To see how the tool tweaks the photo's curves, click the Tone Curve panel and choose the Parametric Curve tab. Click to sample the eye whites and drag upwards to brighten the highlights.



2 Darken the shadows

Click to sample a shadow and drag down to make all the blacks in the image look blacker. These curve tweaks give the image a stronger contrast. Notice that the appropriate Highlights and Shadows sliders in the Parametric Curve panel have been adjusted automatically.



3 Adjust the colour

Click and hold the Targeted Adjustment tool icon and choose Saturation. Click to sample a colour. Drag upwards to make that colour more saturated. Drag down to make it less saturated. This automatically changes the appropriate colour sliders in the HSL panel's Saturation tab.



4 Adjust the Hue

If you set the Targeted Adjustment tool to Hue, then you can drag on a particular colour and quickly change the hue of all similar colours. Here we dragged down on the red top to change the hue of the Reds in the HSL panel to pink. This turned the red lipstick pink too.



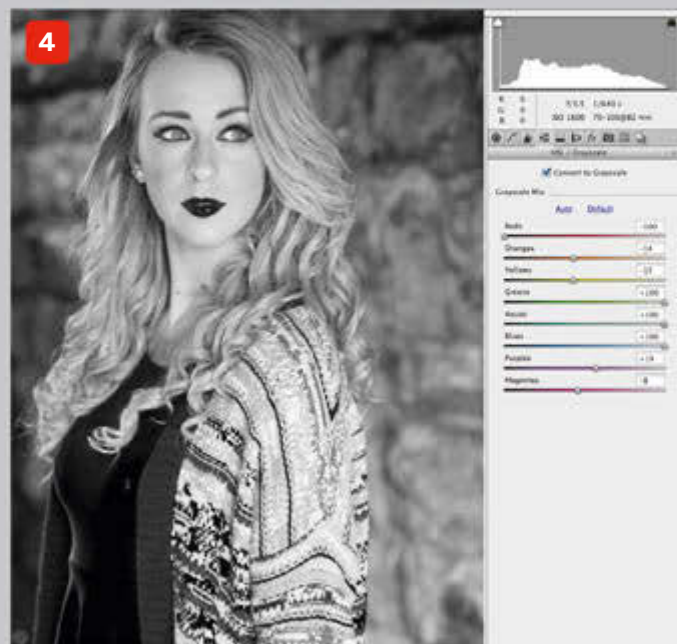
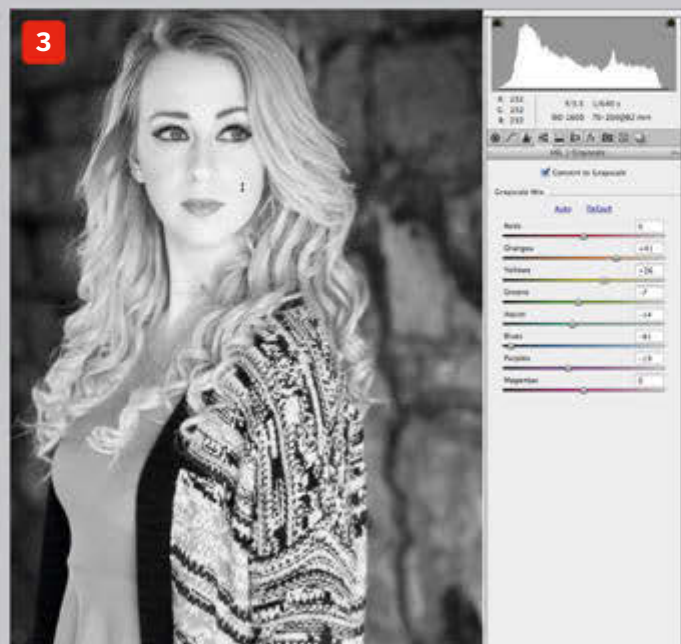
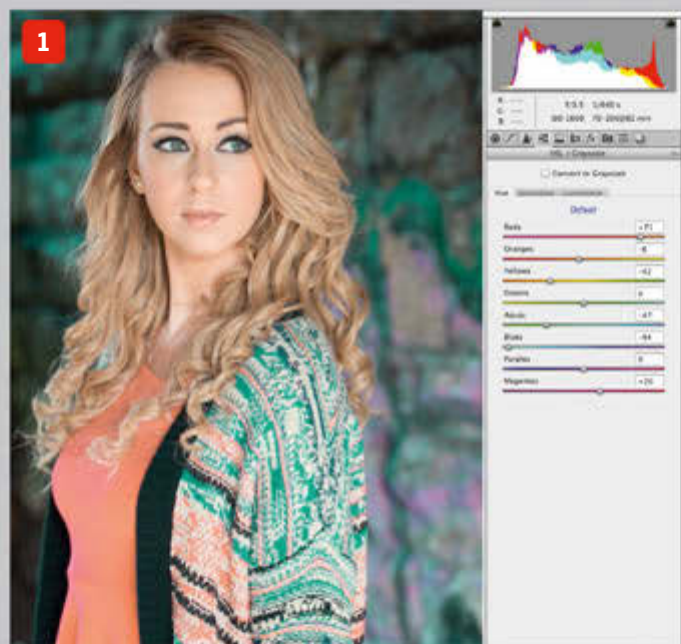
BEFORE



Want to know more? NOW TRY THIS...

After using the Targeted Adjustment tool to perform common photo fixes such as increasing contrast and boosting colour saturation, you can use it to experiment with more creative looks. Here we set the Targeted Adjustment tool to alter Hue and turned the sampled blues a more cross-processed cyan [1]. We also altered the Hue of the Reds to turn them orange. Here's an alternative cross-processed look with greener graffiti, created by sampling and changing the Hue

of the Blues and Purples [2]. You can also set the Targeted Adjustment tool to Grayscale Mix. This enables you to drag down on a sampled colour to create darker tones in a monochrome conversion, or up to lighten the tones. Here we've created luminous white skin to make the model stand out more in contrast with the darker background [3]. Here we've sampled and darkened the Reds of her dress and lips for a gothic look [4].



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Resize and save your raw files

Discover how to save your edited photos in different image formats at different sizes to suit your file-sharing needs

After processing a raw file, you have a choice of several image-saving options. By default, when you make changes to a raw file and click Done to close the image, Camera Raw will create an XMP file that's stored in the same folder as your original raw file. This sidecar file describes the position and value of any sliders that were tweaked in Camera Raw, as well as any modifications that you've made using tools to crop, clone or selectively tone the raw image. When you re-open the raw

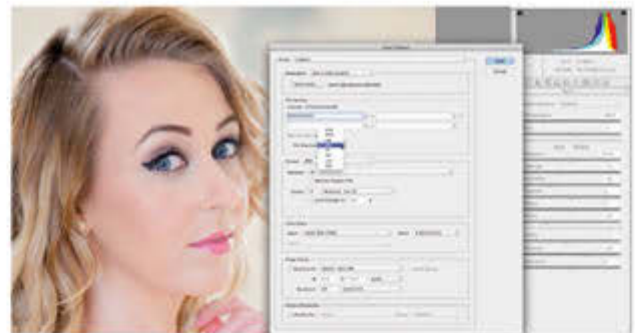
file in the future, Camera raw will read the XMP file and then automatically reapply all the image adjustments and slider settings that you made earlier.

You may want to click Open Image to continue editing the raw file using tools and filters that aren't available in Camera Raw. Alternatively, you might want to create a compressed version of the processed picture that's suitable for posting online. Here's how to save your raw file in a variety of formats.



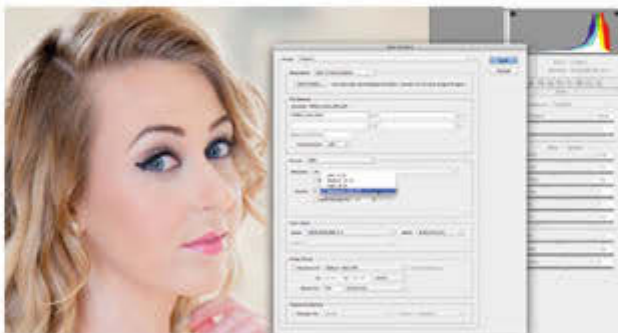
1 Process the picture

Open PMZ31_save DNG. Our raw file is too warm, so drag Temperature to 450 for more natural skin tones. The highlights are too bright, so drop Contrast to -23 and Highlights to -43. Drag Blacks to -53 for more contrast. Set Clarity to -11 for softer skin and boost Vibrance to +33.



2 Choose a format

To save the image in a web-friendly format, click the Save Image button at the bottom left. The Save Image window will appear. In Destination, click Select Folder and choose a folder to store your saved photo in. Click Select. Label the photo and choose a format such as JPG.



3 Set the quality

The Format drop-down menu will change to the file format you've chosen. To create a smaller JPEG you could drop the Quality setting, though obviously, this creates a lower quality image. If you plan to share the photo onscreen set Color Space to sRGB. Use Adobe RGB for print.



4 Choose a size

Use Image Sizing to create a version of your raw file with specific dimensions (such as a 4x7-inch print). For a high-quality print, keep resolution at 300. For the web, you can drop the resolution to 72. Sharpen the file for screen or print. Click Save to create a resized JPEG version. ■

BEFORE





Fix photo problems

Quickly improve composition, tones, and colour, and remove unwanted elements from your photos

46 Improve image composition

Straighten tilted horizons and crop your photos to give your subjects more impact using Camera Raw's composition tools

50 Improve the tonal quality of your photos

Discover how to brighten under-exposed images and add punch with additional contrast using the Basic panel

52 Improve image colours with the Basic panel

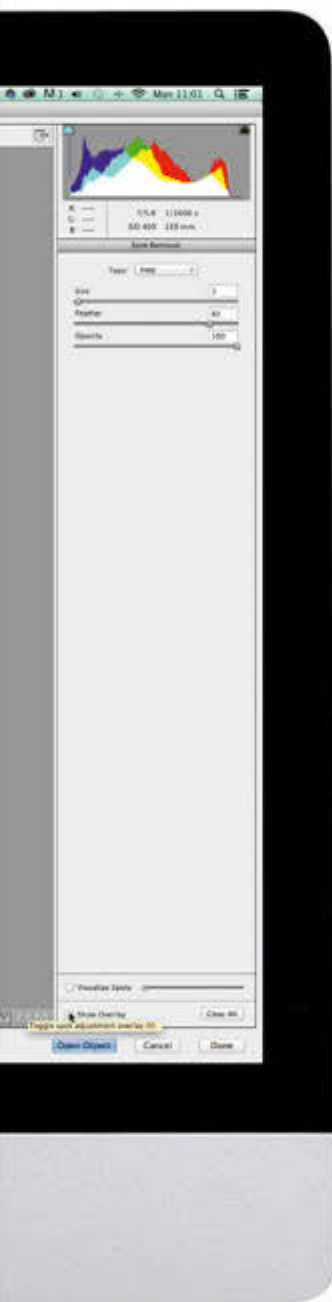
Use the colour-enhancing tools in the Basic panel to create strong and natural-looking colours in your photos

54 Remove unwanted spots and marks

Discover how to identify and remove unsightly spots, blemishes and other unwanted artefacts in your photos

56 Remove large distractions

Remove large unwanted elements from your images by combining the healing with cloning functions in Camera Raw



Improve image composition

A notation/headers

Straighten tilted horizons and crop your photos to give your subjects more impact using Camera Raw's composition tools

When capturing photos on location you may not have time to consider the optimum composition for your subject, especially when shooting a busy event such as a wedding. If you're shooting handheld then you might add a slight tilt to the image's horizon. Thanks to the large size and resolution of your camera's raw files you can use the Camera Raw Crop tool to **Backgrounds of boxes** at your leisure and change the way that they are perceived in the frame. By removing some of the image's edges you can zoom in for a closer look at a subject and make them more prominent in the frame. If you forget to shoot both a portrait and landscape oriented photo

on location you can use the Crop tool to change the shot's aspect ratio and discover which shape best suits your subject.

As you'll see from our walkthrough, the Crop tool enables you to fix problems such as a tilted horizon. Alternatively, you can crop to experiment with more creative composition angles, as if you'd deliberately tilted the camera on location. We'll show you how to crop using a range of presets and create custom aspect ratios. You'll so learn how to crop to create common print sizes so you can produce hard copy pictures to fit in a frame or album. We'll also demonstrate how to darken the edges of the cropped frame to help draw the eye to the main subject and create a natural border.

BEFORE



STRAIGHTEN





TILT

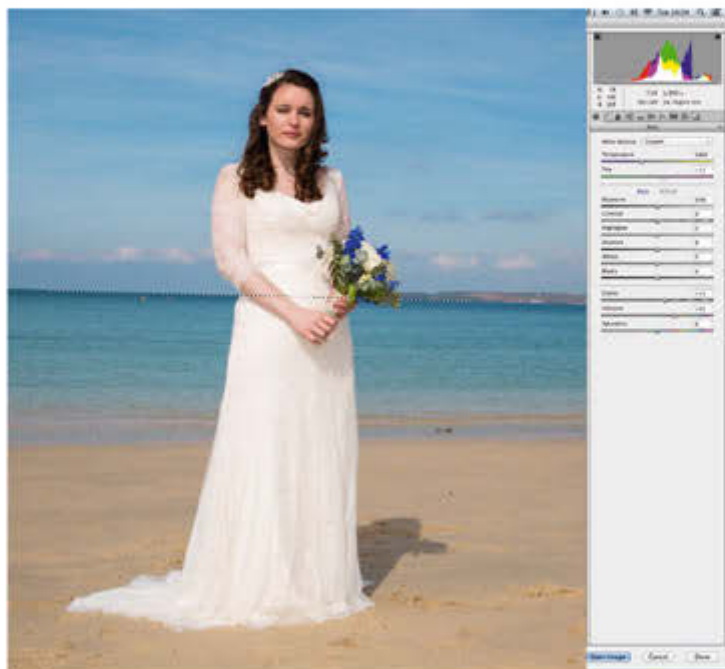


SQUARE



PORTRAIT





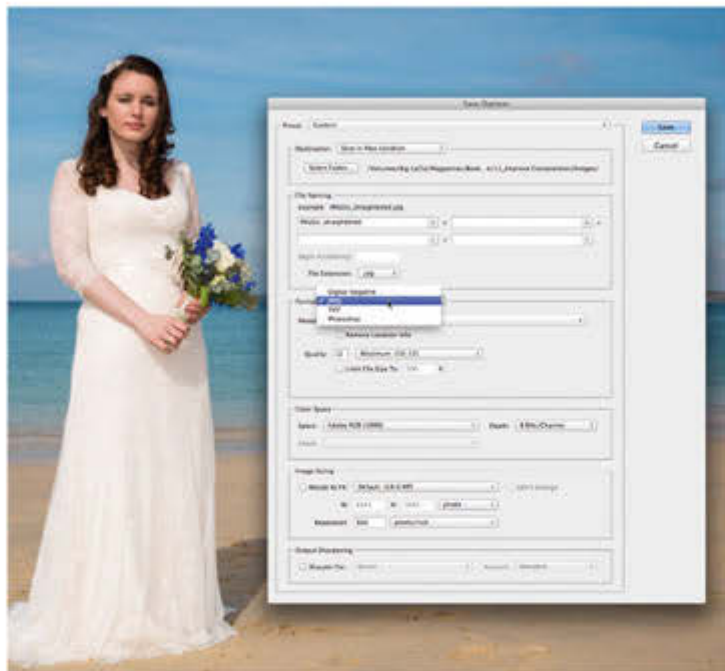
1 Straighten the horizon

Go to File>Open and select PMZ3_compose. Click Open. The digital negative format raw file will open in Camera Raw. If you're using Bridge, click our starting image's thumbnail and choose File>Open in Camera Raw. The horizon is tilting down to the right. To fix a wonky horizon, click to select the Straighten tool from the Camera Raw toolbar. Drag the tool to draw a line that follows the tilt of the horizon.



2 Crop the shot

The Straighten tool will automatically rotate the shot to counteract the angle of the tilt. The Crop tool will become active and a crop overlay window will appear. The Crop tool needs to crop the rotated image to avoid adding transparent edges to it. The edges of the image that will be removed by the Crop tool appear as partially greyed out. You could drag the crop overlay's corner handles to fine-tune the tightness of the crop.



3 Save the straightened image

The image will still look tilted. To see the results of the Crop tool, you need to click to choose any other tool in the toolbar (such as the Hand tool). The image will then be cropped and straightened. You can now click Save and produce a JPEG version of your corrected image. As editing in Camera Raw is a non-destructive process, you can click back on the Crop tool at any time and you'll see the original cropped edges.



4 Rotate the overlay

Click back on the Crop tool to summon the crop overlay that you created with the Straighten tool. Place the cursor outside the crop overlay to activate a rotate icon. Drag to rotate the crop overlay clockwise until it creates a portrait-oriented shape. As you rotate the crop overlay, a mesh will appear. Use the mesh to align the rotated overlay with the tilted horizon. This will ensure that the portrait-shaped image has a straight horizon.



5 Use the rule of thirds

Drag inside the crop overlay to recompose the image so that the train of the bride's dress is in shot. The crop overlay's Rule of Thirds grid enables you to make sure that the bride is in the centre of the frame. Hold Shift to constrain the overlay's shape and drag a corner handle to tighten the composition. Drag inside the overlay to place the sand in the Rule of Thirds grid's bottom row. Click another tool to view the new cropped composition.



6 Add a vignette

Click the Effects panel. In the Post Crop Vignette section, set the Style drop-down menu to Color Priority. This allows the vignette to gently darken the shot's original edge colours rather than just adding grey to them. Set Amount to -27 to add a natural-looking vignette to the edges of the cropped image. Increase Midpoint to 63 to push the vignette effect out towards the edges while preserving the vignettted corners. Save your portrait-oriented version of the scene.



7 Choose a new ratio

Go to the toolbar and hold down the mouse button on the Crop tool's icon. In the pop-up menu, choose a new aspect ratio such as 1:1. Drag the square crop overlay's corner handles to resize the image. Drag inside the overlay to recompose the subject. The Post Crop Vignette will automatically be re-applied to the edges of your photograph's new shape, so you don't need to spend time fine-tuning it.



8 Experiment with angles

After saving a square version of your cropped shot, experiment by clicking the Crop tool's icon and dragging the crop overlay's corner handles to zoom in for a tighter composition. Drag outside the overlay to deliberately rotate the shot to produce a tilt that adds energy and drama to the original image's formal composition. Once you've saved a range of new compositions, you can always choose Clear Crop from the Crop tool's drop-down menu. ■

Improve tones

Discover how to brighten under-exposed images and add punch with additional contrast using the Basic panel

A shot that looks correctly exposed on your camera's illuminated display may look a little dull and suffer from a lack of contrast when printed out as a hard copy. Our starting image looks fairly well-exposed to the naked eye, but if we look at the Camera Raw Histogram we can see that the undulating graph doesn't quite stretch to the far right. This indicates that while the shot has plenty of shadow and midtone information, it lacks strong highlights. It's a simple matter to tweak a few sliders

in the Camera Raw Basic panel to selectively boost the strength of the weak highlights. We'll also show you how to reveal some extra detail in our subject's darkest shadows, while creating an image that enjoys a strong contrast with some black shadows and white highlights. This increase in contrast will help the image look less flat and give it more impact. As the Basic panel's tone-tweaking sliders enable you to target and adjust specific tonal ranges, you can use them to fix common exposure problems quickly and effectively.



1 Boost highlight strength

Open PMZ09_tones in Camera Raw. The histogram graph needs to stretch from the far left to the far right if we're to have a correctly exposed shot. As the highlights are weak, drag the Highlights slider right to 100. This causes the graph's weak highlights to slide right too, indicating that they have been made stronger.



2 Discover clipped highlights

When boosting highlights you risk clipping (over-exposing) them and losing detail. Clipped highlights appear as a peak at the right of the graph. To reveal them in the image, click the Highlight clipping warning icon at the right of the Histogram, or press O for over-exposed. Clipped highlights will appear as patches of red.



3 Reveal shadow detail

In this example the clipped highlights only appear in the specular reflections in her eyes and earring, so we're not losing any important highlight detail. It's good to have some bright highlights in an image if it gives a healthy contrast. To reveal detail hidden in the photo's shadows, boost the Shadows slider to +55.



4 Tweak the contrast

For a healthy contrast we need some white whites and black blacks. We could drag the Contrast slider to darken shadows and lighten highlights equally. For more control drag Whites to +17. Darken the Blacks slider to -10. This allows a touch of blue shadow clipping patches to appear in unimportant areas.

BEFORE



Improve image colour

Use the colour-enhancing tools in the Basic panel to create strong and natural-looking colours in your photos

If you capture your photos in JPEG format then the colour settings that you choose in your camera's menu will be applied to the image as it's saved onto the memory card. This means that it will be harder for you to change a photo's pre-processed colours in Photoshop. By using in-camera colour settings such as Vivid or Natural you'll produce a range of dramatically different looking colours. If you use an inappropriate white-balance setting when shooting JPEGs then your photos may suffer from colour casts too. These warm or blue tints in a compressed JPEG will also be more challenging to correct in Photoshop compared to working with a raw file.

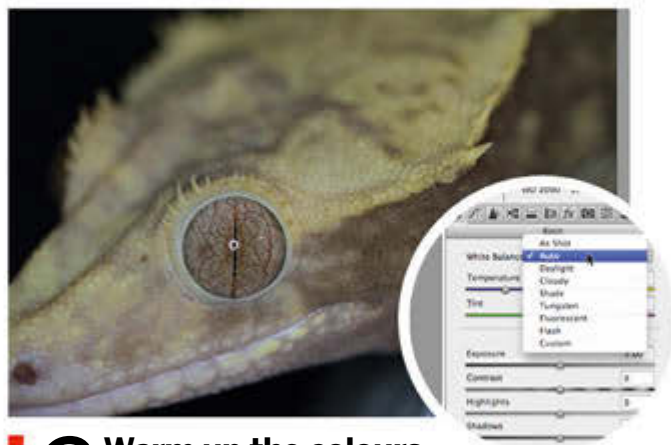
By photographing in raw you have more colour information to work with. The colour boosting and correcting tools in the Camera Raw Basic panel can be used to produce a range of different looks, from a vivid colour palette to a more natural, less saturated look. This gives you more freedom and quality than you'd get by applying an in-camera colour preset to a JPEG version of the image. Here's a quick colour-enhancing walkthrough you can apply to your photos.

BEFORE



1 Open the image

Open PMZ76_colour in Camera Raw. Our unprocessed starting image's colours look very drab, so we need to reveal the extra colour information hidden in the raw file. The colours look a little cold too, so we'll need to warm them up slightly to remove the slightly blue colour cast.



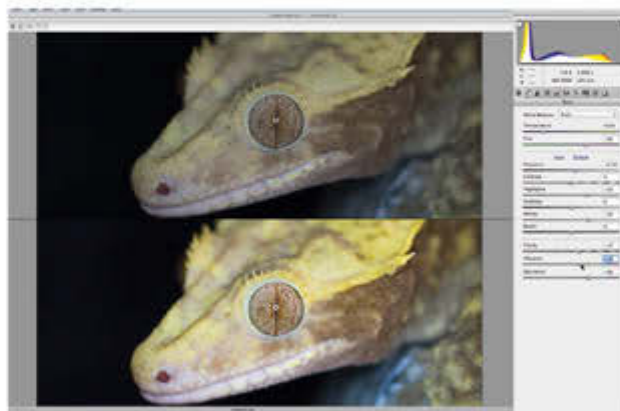
2 Warm up the colours

Go to the White Balance drop-down menu. Here you'll find a series of settings that are similar to those you can select in camera. Experiment to see which produces the most tint-free colours. In this instance Auto does a good job of removing the cold blue colour cast.



3 Correct the exposure

From the histogram we can see that the image is under-exposed. It's always worth fixing exposure problems before adjusting colour saturation, because this can reveal more colour problems. Drag Exposure up to +0.50. Increase Highlights to +32 and Whites to +36.



4 Boost the saturation

Drag Vibrance up to +19. This selectively boosts the saturation of weaker colours without over-saturating stronger ones. This makes the colours look more evenly saturated. Give the colours a global boost by pushing Saturation up to +36. A Clarity of +15 reveals more texture. ■

Remove unwanted spots and marks

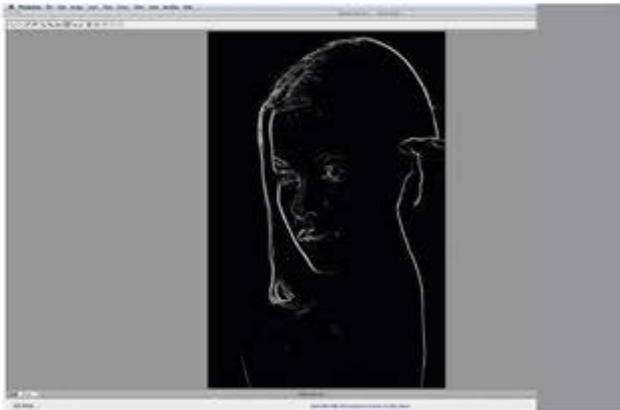
Discover how to identify and remove unsightly spots, blemishes and other unwanted artefacts in your photos

When shooting subjects that feature a large clear expanse of bright colour or tone, such as a sky or a studio backdrop, then you may notice small grey blobs in these sections of the image. Unsightly sensor spots are caused when specks of dust enter the camera body (when changing lenses, for example) and come to rest on the sensor. Your SLR may enable you to vibrate the sensor in an attempt to clean it, but this may not be enough to shake the more tenacious spots. You could attempt to clean the sensor by removing the lens, opening the shutter and blasting the sensor with a gust of air from a blower brush. However, this physical fix won't remove sensor spots from older photos in your collection.

If shooting a portrait, then your subject may suffer from spots and pimples on the skin. Although these types of spots aren't a camera-induced artefact, you may still want to flatter the subject by creating a spot-free complexion.

Camera Raw has a spot-removal tool that can eradicate skin or sensor spots quickly and effectively. It works by sampling clean pixels and placing them over an adjacent spot. We'll show you how to modify the tool to reveal the location of spots more effectively, so that you can remove them with a few clicks.





1 Find the spots

Open PMZ83_spot. Click the Spot Removal tool in the toolbar (or press B to summon it). To discover the location of the most unsightly spots, tick the Visualize Spots box in the Spot Removal panel. By default only the most contrasting edges will be visible in white.



2 Adjust the tolerance

To reveal more subtly contrasting spots lurking in smooth patches of skin, drag the Visualize Spots slider right. This makes it more sensitive. The trick here is to get a balance between revealing spots in patches of white, without including other details such as skin pores.



3 Set up the tip

Increase the Size slider so that the Spot Removal tool's tip is large enough to cover the average spot. Set the Type drop-down menu to Heal. This will cause sampled and relocated skin to be seamlessly blended with its new surroundings. Click a white spot to turn it black.



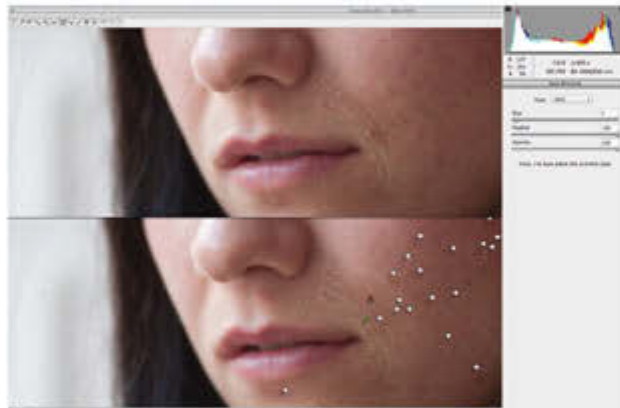
4 Reposition the overlays

Untick Visualize Spots to see the image. As you click a spot, a red overlay surrounds it. The attached green overlay automatically samples a clear patch of skin to place it over the unwanted spot. Reposition a green overlay to find a cleaner patch of skin.



5 Fine-tune the size

Drag the edge of an overlay to resize it. To restore a missing birth mark or freckle that's a permanent part of the subject's character, click an overlay and hit the Backspace key to delete it. To get a clearer look at the subject, tick the Show Overlay box.



6 Remove lines

The latest version of Camera Raw enables you to draw irregular shapes with the Spot Removal tool, so that you can select and remove lines and wrinkles in a single stroke. These longer strokes are represented by pins. Click a pin to activate and edit the attached overlay. ■

Remove unwanted distractions

Remove large unwanted elements from your images with healing tools

As its name suggests, the Spot Removal tool was primarily designed to help you remove tiny spots and blemishes from your images. You could use it to replace sensor spots with clear patches of sky or hide an unsightly pimple with a couple of clicks. Before the release of Photoshop CC 2014, the Spot Removal tool was generally limited to this type of subtle cosmetic photo fixing. If you needed to remove a more complex object (such as a lamppost sticking out from behind a subject's head) then you needed to open the image in Photoshop to access its more versatile brush-based Clone Stamp tool. This meant that you lost the quality benefit of editing in Camera Raw.

With the advent of Camera Raw 8.4.1, the Spot Removal tool has been updated and enhanced to bring it in line with the version that appeared in Lightroom 5. You can now change the size and shape of the Camera Raw Spot Removal tool to paint over an unwanted object using longer strokes instead of lots of circular overlays. This enables you to hide complex objects more easily, without having to leave Camera Raw.

In this walkthrough we'll combine the healing powers of the Spot Removal tool with its capacity to clone. Healing relocates and blends sampled pixels, but that can create unwanted texture artefacts in complex subjects such as our piglet's textured snout. Cloning relocates sampled pixels without blending them with their new neighbours, so you can preserve more complex details. By combining the two modes, you can create seamless results.

BEFORE







1 Magnify the image

In Bridge, right click PMZ80_clone and choose Open in Camera Raw. Alternatively, you can double click the photo's thumbnail. As it's a digital negative format file it will automatically open in Camera Raw, Photoshop's digital darkroom. To get a closer look at the unwanted piece of straw over the piglet's face, use the Zoom Level option to magnify the shot to 40%. Drag using the Hand tool to get a clear look at the straw.



2 Set the size

Grab the Spot Removal tool from the Camera Raw toolbar (or press B to summon it with a keyboard shortcut). The Spot Removal panel will appear. Set the Type drop-down menu to Heal. Move the cursor over the distracting piece of straw to see how large it is. Set the Size to 16 so that the Spot removal tool's overlay is large enough to cover the width of the straw. Set Feather to 84 and Opacity to 100.



3 Sample a section

Click and paint downwards to cover the first section of straw as it overlaps the fur. This will create a red overlay. An identically shaped green overlay will automatically sample an adjacent selection of pixels and place them inside the red overlay. Choose a more suitable selection of pixels to sample, drag inside the green overlay, and place it alongside the red. This makes the top of the sampled snout replace the details hidden by the straw.



4 Reposition the overlay

Click and drag to draw over the next section of straw. You can't start drawing inside an existing overlay, but you can draw outside an existing overlay and then make your new stroke overlap it. The second overlay should automatically sample pixels from a more suitable area, but feel free to reposition the green overlay if necessary to place appropriate details (such as a wrinkle) over the straw. The healing won't be perfect, but we'll fine-tune the results later.



5 Change to cloning

When moving over more complex areas such as the nose, change the Type menu in the Spot Removal panel to Clone. This creates cleaner edges to the sampled and relocated pixels. Draw over the next section of nose. Drag the green overlay to make the right nostril overlap the missing left nostril hidden by the straw. Drag Feather to a sharper 68 to include more sampled nostril detail and hide traces of unwanted straw.



6 Extend the snout

Draw a horizontal stroke over the obstructed section of the piglet's snout and then click the green overlay's pin to select it. Drag the green overlay to the right so that it samples and extends the bottom of the clean snout into the red overlay. By cloning in smaller sections, you can begin to place parts of the piglet's features over the unwanted piece of straw to create a suitable new patch.



7 Sample little and often

Once you've cloned out the largest sections of straw using long strokes, drop the Spot Removal tool's tip Size to around 7 pixels and click to place circular overlays over the remaining traces of straw. Reposition each green overlay to place appropriate bits of piglet skin into the circular overlays. The pins from the longer strokes can obscure your retouching work, so feel free to Untick the Show Overlay box for a clearer view.



8 Add the finishing touches

If an overlay doesn't do a good job, click its red or green pin and hit the Backspace key to delete it. You can also adjust an existing overlay's Feather value to fine-tune the way it conceals an unwanted object. Continue clicking and stroking to replace traces of straw with patches of piglet until the unwanted object has been removed. Reposition existing green or red pins to fine-tune the way they perform. ■





Essential corrections

There are some adjustments you'll need to make to almost every photo. Find out what they are and how to apply them

62 Reduce unsightly image noise
Smooth away distracting luminance and chrominance noise caused by using high ISO settings in low-light conditions

64 Correct lens distortion and vignetting
Remove unwanted lens effects from your photos such as image distortion and vignetting using lens profiles

68 Correct perspectival distortion
Straighten converging verticals in your photos of buildings using the powerful Upright command in Camera Raw

70 Recreate in-camera picture styles
Make changes to the colours and tones of a photograph with just a few clicks by applying different camera profiles

74 Sharpen up your images
Discover how to make your photos appear crisp and sharp without introducing image noise in blurred areas





BEFORE



Reduce unsightly image noise

Smooth away distracting luminance and chrominance noise caused by using high ISO settings in low-light conditions

When shooting in low lighting conditions your camera will struggle to capture a correct exposure. You could pop up the flash to add artificial light, but this may not always help. Flash won't illuminate distant objects and may not be permitted in certain locations. By setting your camera to a faster ISO speed you can make it more sensitive to available light. This enables you to use a narrower aperture and a faster shutter speed in low light, but it can result in pictures suffering from noise. There are two types of

digital noise present in a photo captured using a high ISO. The most distracting is Chrominance (or colour) noise. This appears as rainbow-coloured dots scattered throughout the image. Fortunately, this unsightly type of noise is easy to remove without smoothing out important details.

The second type of noise is Luminance noise. This appears as greyscale specks of digital grain. Camera Raw counteracts this type of noise by smoothing it using the Detail panel's Noise Reduction sliders. However, this operation can also smooth out fine details in

the image, so you need to juggle the sliders to get a balance between smoothing noise while preserving detail.

There are lots of different ISO speeds to choose from on most modern digital cameras. However, the higher the ISO speed, the noisier the results. After showing you how to smooth noise while preserving detail, we'll demonstrate how to set up the Camera Raw preferences so that the correct amount of noise reduction will be applied to suit the specific ISO speed of any picture that you open in future. ■

Photoshop Anatomy Noise Reduction

Remove luminance and chrominance noise using the Detail panel

1 COLOUR NOISE

Chrominance noise is visible as specks of colour. By default the Camera Raw Color slider is automatically set to 25 to remove colour noise from all photos. To remove it from this image a Color value of 35 is sufficient.

2 LUMINANCE NOISE

This type of greyscale digital noise equates to the grain produced by fast ISO speed film, although clumps of grain are considered more attractive than sharp dots of digital noise.

3 LUMINANCE

Drag this slider right to smooth out noise. Drag it left to restore fine detail. This is the most useful slider to start working with. A value of 69 dramatically reduces the presence of noise, especially in the background blur.

4 LUMINANCE DETAIL

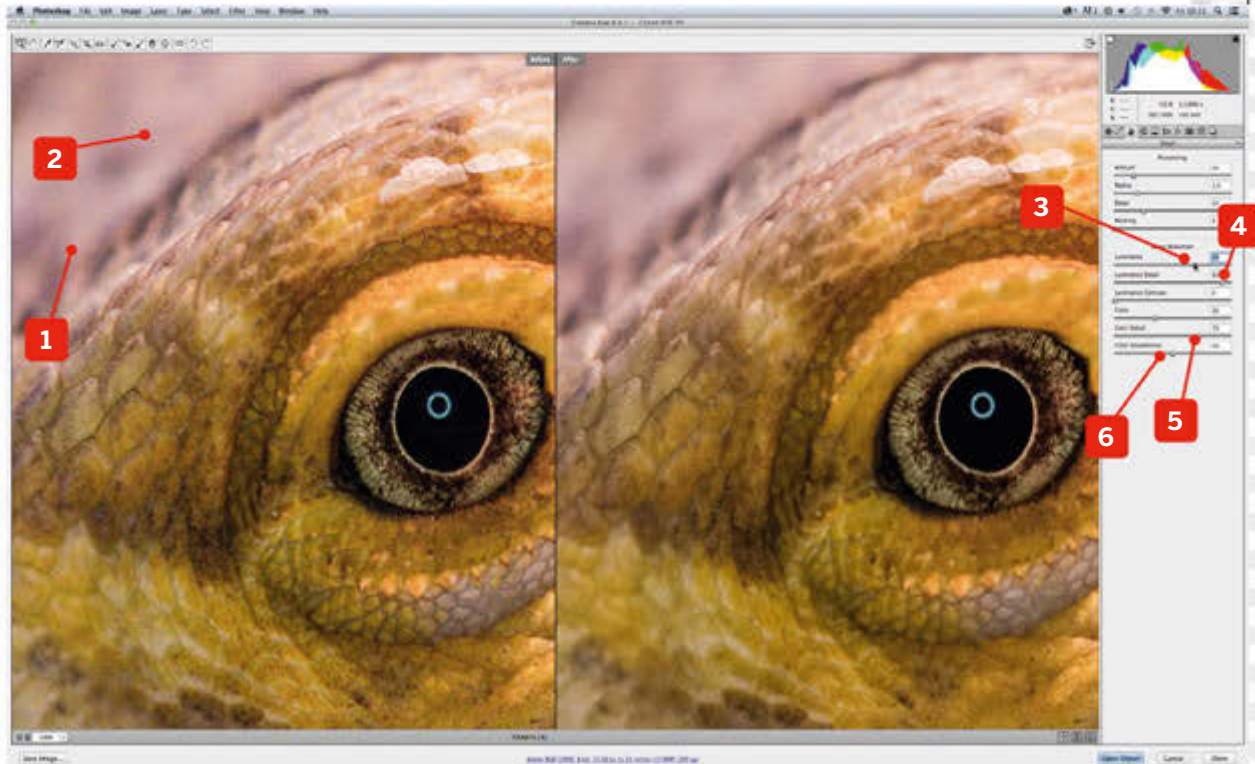
Enables you to get a balance between smoothing out luminance noise while protecting important details. Drag right to sharpen blurred details, or left to blur more noise. You can reveal fine detail by increasing Luminance Contrast, though that will exaggerate noise.

5 COLOR DETAIL

This slider provides a balance between reducing colour bleed and colour speckling. Drag it right to reduce bleed or left to reduce speckling. A value of 73 will be fine in this instance.

6 COLOR SMOOTHNESS

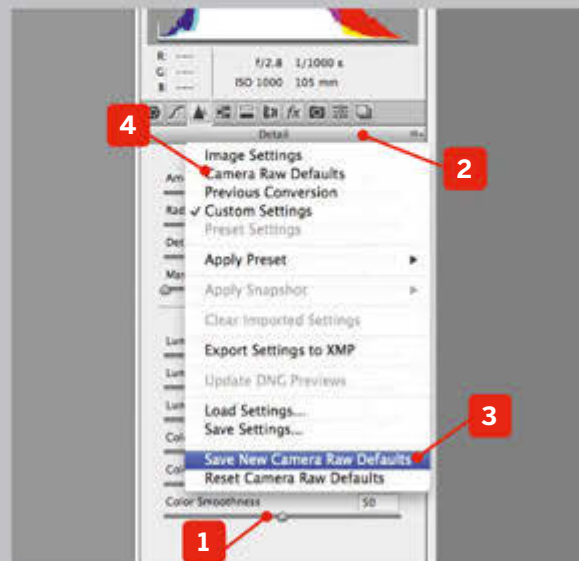
This slider is designed to remove low-frequency colour mottling, though in the case of this image the default setting of 50 produces good results.



Understanding... PREFERENCES

By default, the Camera Raw Noise Reduction sliders are set with Luminance at 0 and Color at 25. You can tailor these Noise Reduction defaults to apply suitable settings to different ISO speed images. Go to Camera Raw preferences and tick Make defaults specific to camera ISO setting. Click OK. Open an image with a particular ISO speed

(such as our lizard's ISO of 1000). Set the Noise Reduction sliders to smooth out the noise [1]. Click the fly-out icon [2]. Click Save New Camera Raw Defaults [3]. Click Done to close the raw file. When you open another ISO1000 image, click here [4] to apply the appropriate Noise Reduction settings that you applied previously.



GIVE IT 100%

To see precisely how much noise is blighting your photograph, you need to view the shot at 100%. This actual-size magnification enables you to use the Noise Reduction sliders to smooth out noise more accurately while preserving important details in the scene. Click the Select Zoom Level pop-up menu and choose 100% from there. Alternatively, you can double click the Zoom tool icon in the toolbar, and the image will automatically jump to 100%. You can then press H to summon the Hand tool and drag the magnified image to find a noisy area to work on. We chose a section that showed a mixture of smooth background and the lizard's detailed texture.

Fix lens distortion

Remove unwanted lens effects from your photos such as image distortion and vignetting

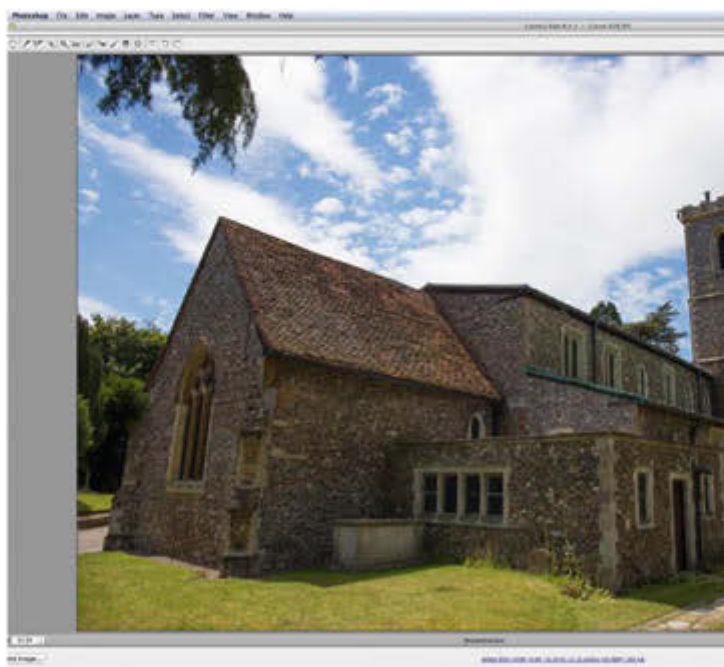
What you see with the naked eye isn't always what you get in a photo. This is due to problems produced by the camera's lens. When shooting with a wide-angle lens, horizontal and vertical lines can look curved instead of straight. This distortion is especially noticeable when shooting architecture. Barrel distortion causes the edges of the frame to bulge outwards (as if you'd wrapped the photo around a barrel). Pincushion distortion causes the edges to bulge inwards. These types of lens-related problems are referred to as geometric distortion.

Due to the way a lens is manufactured, you may find that less light enters at the edges. The resulting uneven exposure can cause the edges of the frame to look darker (or vignetted). You may find fringes of green or purple clinging to the contrasting edges of your subject. This ugly and distracting chromatic aberration is caused by the lens's inability to focus different wavelengths of light onto the same spot on your camera's sensor. It's more noticeable when using cheap lenses, but even the L-series lens used to take our starting image features a little fringing. We'll show you how to use the Lens Correction panel's Color tab to remove colour fringes automatically, or take manual control where necessary. The aptly named Lens Correction panel also has tools dedicated to counteracting geometric distortion and vignetted corners. One of the most useful tools is the Profile tab, because it enables you to remove lens-induced artefacts with a click.

BEFORE

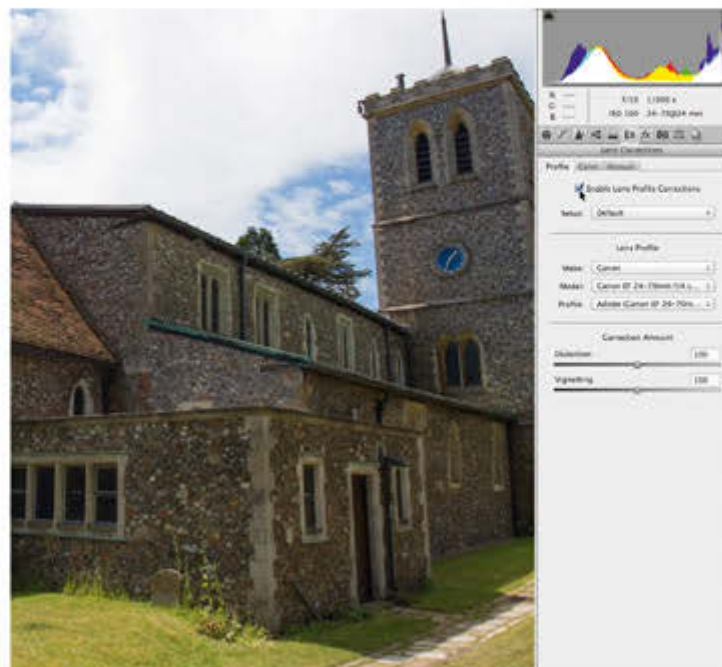






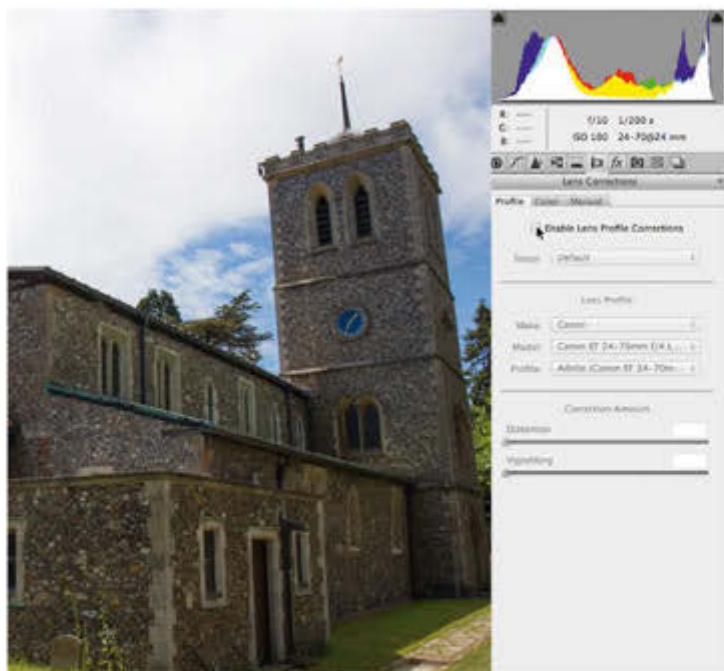
1 Open the image

Open PMZ15_lens correction in Camera Raw. If you look below the Histogram window you can see that a wide-angle lens was used to capture the picture. The additional @24 information tells us that the lens was at its widest setting. This will cause some geometric distortion and possibly lead to vignetting around the edges. Thanks to the lens's wide-angle setting, the building's edges also suffer from perspectival distortion.



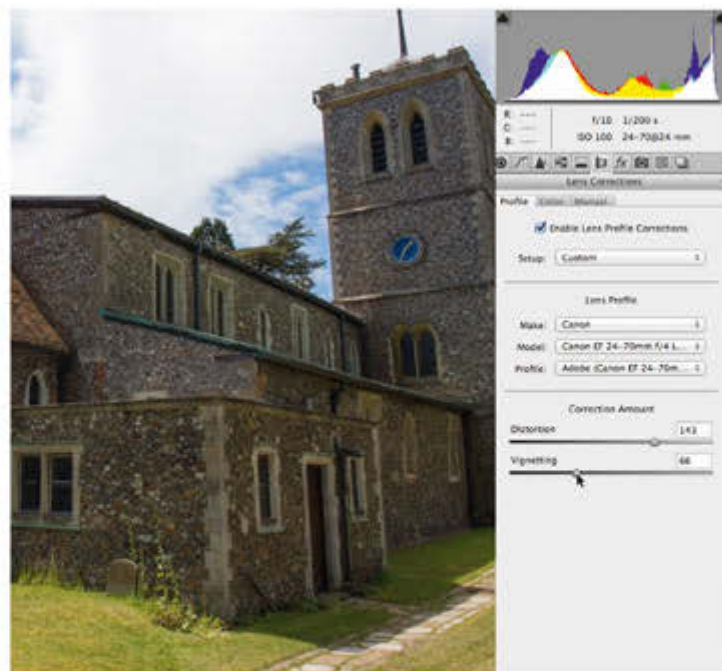
2 Use a profile

Click the Lens Corrections panel. Click the Profile tab. You can use this tab to make a lens profile from the metadata stored in the raw file. Once Camera Raw knows which lens and focal length you used to capture the image, it will automatically be able to counteract geometric distortion and create more evenly exposed edges. Tick Enable lens Profile Corrections. Your lens's manufacturer and lens model details should appear.



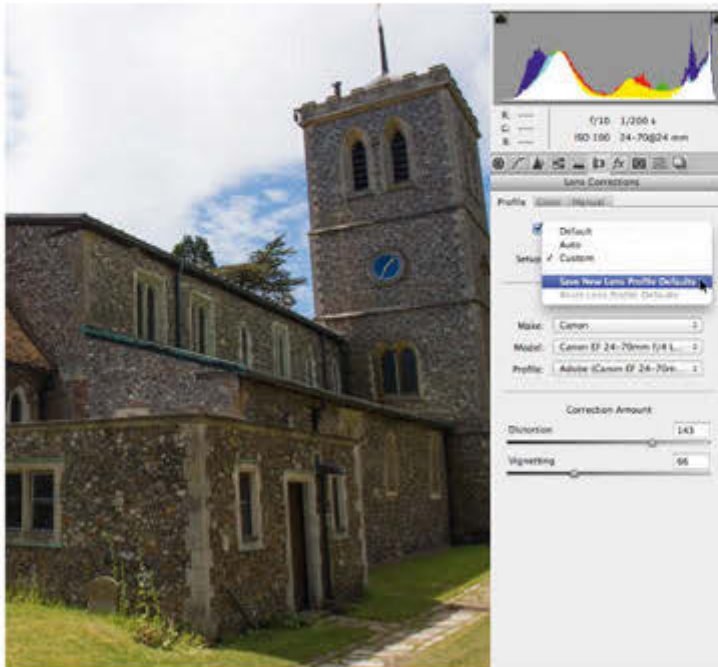
3 Before and after

If your lens's make and model details don't automatically appear, choose your lens's manufacturer (such as Canon) from the Make drop-down menu. This should be enough for Camera Raw to find the precise lens used, and apply a profile that counteracts any geometric distortions that the lens produces. Toggle the profile on and off to see a before-and-after version of the shot. You can see that the image suffers from vignetted edges and barrel distortion when the profile is off.



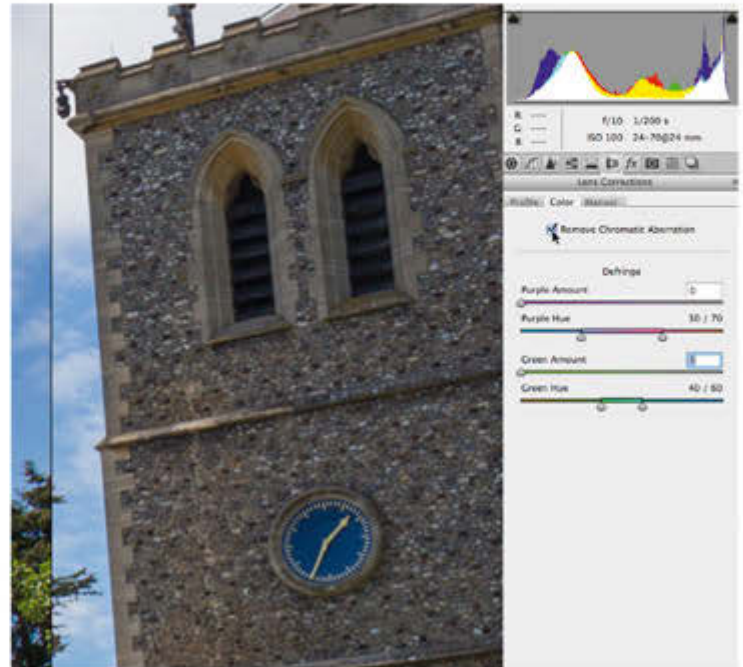
4 Fine-tune the corrections

In the uncorrected version of the image, the sky is darker at the top left corner. The profile counteracts this vignetting and creates a more evenly exposed sky. You can fine-tune the effect of the profile using the Correction Amount sliders at the bottom. To counteract the barrelling even more, push the Distortion slider right to 143. To gently reduce the strength of the vignette correction, drag Vignetting left to 66.



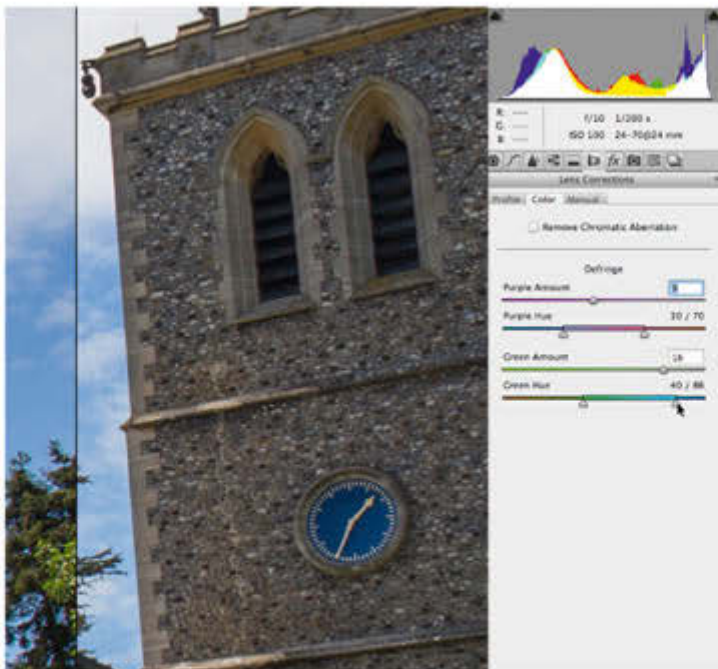
5 Create a custom profile

After tweaking the Correction Amount sliders, you'll have created a custom profile. You'll see the word Custom appear in the Setup drop-down menu. If you want to apply the same corrections to other images captured with this lens, click the Setup drop-down menu. Click Save New Lens Profile Defaults. Setup will change to Default, but now when you apply the Default profile to a shot, it will use the numerical values you applied to the Correction Amount sliders.



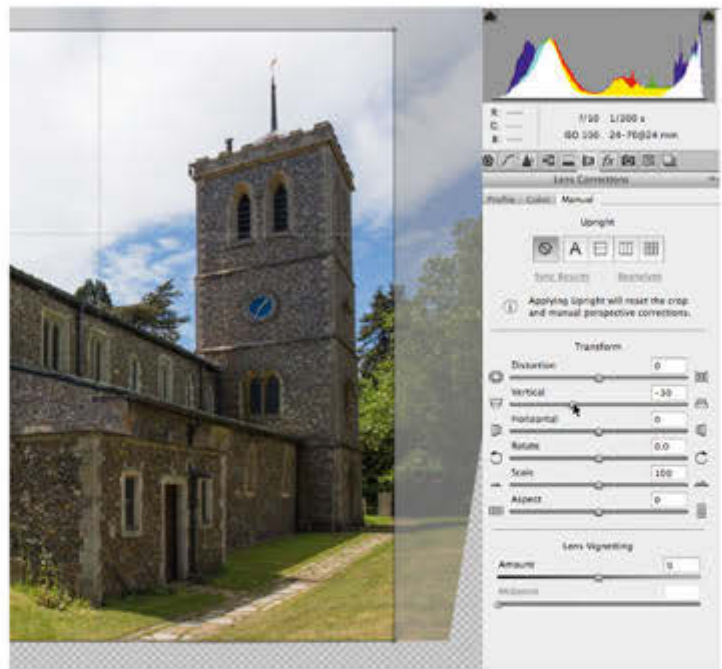
6 Remove the chromatic aberration

Grab the Zoom tool and click to magnify the image to 100%. Hold down the spacebar to summon the Hand tool and drag to view the church tower. You'll notice a green fringe clinging to the right of the tower as the dark building contrasts against the lighter sky. Clinging to the left of the tower is a less noticeable but still visible purple fringe. In most cases you should be able to remove all traces of fringing by clicking the Remove Chromatic Aberration box.



7 Remove the coloured fringes

If the Remove Chromatic Aberration box doesn't work, you can manually choose the colour of the fringes that you need to remove. Untick the box. Drag the Green Amount slider right to 16. The green fringe is still visible. To widen the range of the tool to include more green hues, drag the Green Hue slider to the right. In this case a value of 86 is enough to include and remove the colour of the unwanted green fringe. Set Purple Amount to 9 to remove the purple fringe.



8 Correct the perspectival distortion

Zoom out to see the whole image. The church's walls are converging inwards towards the top. To straighten them, click the Manual tab. Drag the Vertical slider to the left to counteract the perspectival distortion — a value of -30 does the trick in this example. After manually adjusting the verticals, you'll need to use the Crop tool to hide the transparent corners at the bottom of the frame. We'll look at this panel in more detail on the next spread. ■

Correct perspectival distortion

Straighten converging verticals in your photos of buildings using the powerful Upright command in Camera Raw

We take it for granted that most buildings have vertical walls that extend at a 90-degree angle from the ground. However, in photographs, the walls often appear wider apart at the ground, but tilt inwards towards the top (as you can see in our starting image). These converging vertical lines are created by perspectival distortion.

As you get closer to a building, you'll need to tilt your camera at a steeper angle to get the top of the structure in shot. This will create the perspectival distortion. Converging lines can also be exaggerated when you use a wide-angle lens to fit the building into the frame.

The Manual tab on the Lens Correction panel contains a Distortion slider that enables you to counteract converging verticals. However, this can create large transparent areas at the bottom of the image that will need to be cropped out. The Upright tools enable you to distort your image automatically to make the subject's verticals actually look vertical. They can also produce results that need less cropping. If you do need to crop a corrected shot, we'll show you a trick that enables you to fill in the transparent edges with appropriate detail.

BEFORE



1 Straighten the building

Open PMZ16_upright DNG. Open the Lens Corrections panel and click Manual. Tick Show Grid. By dragging Vertical left to -22 you can make the tower's vertical lines run parallel with the frame edge. If the corrected building looks a little too squat, drag the Aspect slider right to slim it down a little.



2 Auto correction

Although the tower is corrected, the walls at the far left and right are still converging, and we've created transparent edges that need cropping. As an alternative, tick the Auto button in the Upright section. This produces a similar perspectival correction and scales up the shot to remove the transparent edges.



3 Force the verticals

The Auto button produces a subtle, balanced perspective correction. This means that the edge verticals will still tilt a little. To force all the walls of the building to run parallel with the edge of the frame, click the Vertical button. You can then drag the Scale slider left to reveal more of the frame's edge details.



4 Remove the transparent edges

Click Open>Image. To fill any transparent edges with appropriate pixels, grab the Magic Wand tool. Untick Contiguous. Click to select the edges. Choose Select>Modify>Expand. Type in a value of 15. Click OK. Choose Edit>Fill. Set Use to Content-Aware. Click OK. This fills the transparent edges with grass. ■

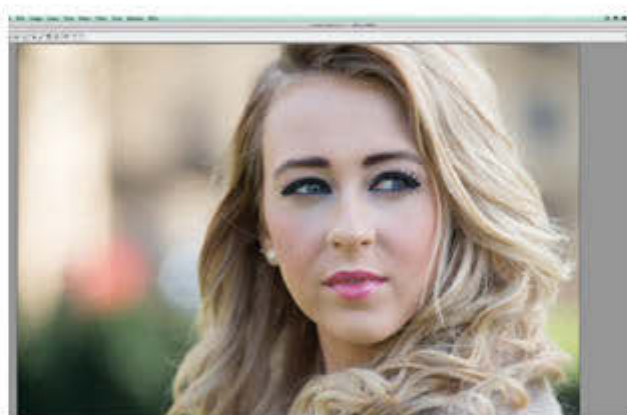
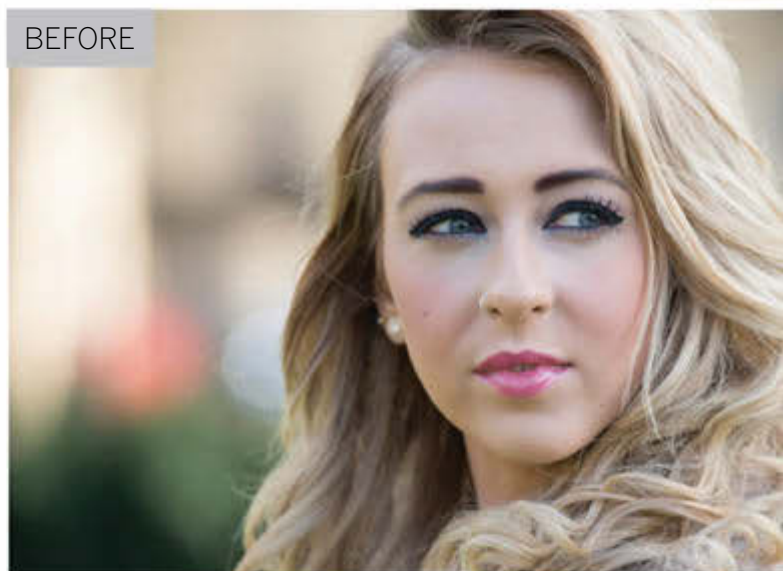
Recreate in-camera picture styles

Make changes to the colours and tones of a photograph with just a few clicks by applying different camera profiles

Many digital cameras provide the opportunity to process a shot as they capture it, using a range of preset applied adjustments such as Portrait, Landscape, Neutral and so on. These presets change the look of the captured shots' colours and tones. For example, a camera's Landscape preset might boost the saturation of natural colours such as blues and greens. The Neutral preset will avoid boosting the colour and contrast so that you can get the look you want manually by adjusting the sliders in Camera Raw.

If you shoot in JPEG format, then the results of these in-camera presets will be harder to alter in Photoshop. However, if you shoot in your camera's raw format then you can experiment with different looks quickly and effectively, courtesy of the profiles and sliders in the Camera Calibration panel. This panel provides you with a springboard for quickly adjusting a raw file's colour and tone. You can then fine-tune the results of a particular preset profile using the Basic panel's sliders.

BEFORE



1 Choose your processing options

Open PMZ20_calibration. Click the Camera Calibration panel. Camera Raw 8 uses the 2012 processing engine, but you could jump back to the 2010 process to replace the Basic panel's Highlights and Shadows slider with the older Recovery and Fill light sliders.



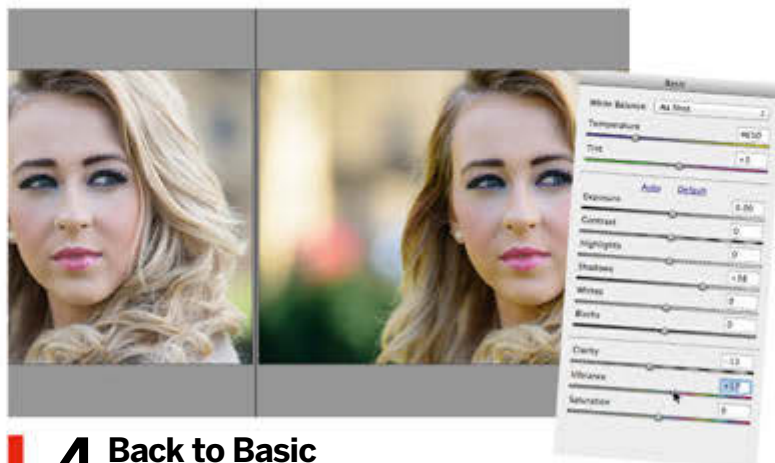
2 Choose a profile

Leave Process set to 2012 (Current) to use the latest raw processing tools. Camera Landscape increases contrast and boosts the colour saturation of natural colours such as greens without over-saturating the subject's skin tones, so settle with that profile as a starting point.



3 Fine-tune the profile

Draw attention to the vegetation by boosting Vibrance to +40. This selectively boosts the saturation of typical landscape colours without over-saturating any skin tones that may be present. Click the Presets tab. Click the New Preset icon at the bottom of the tab.



4 Back to Basic

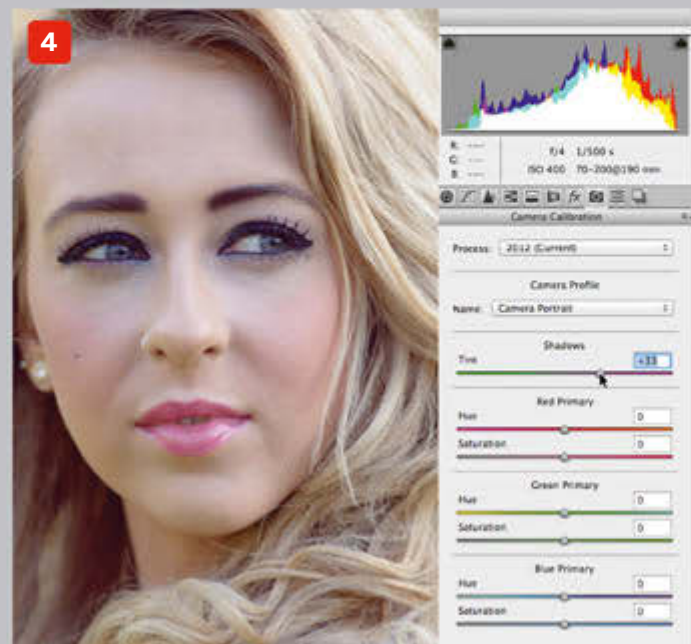
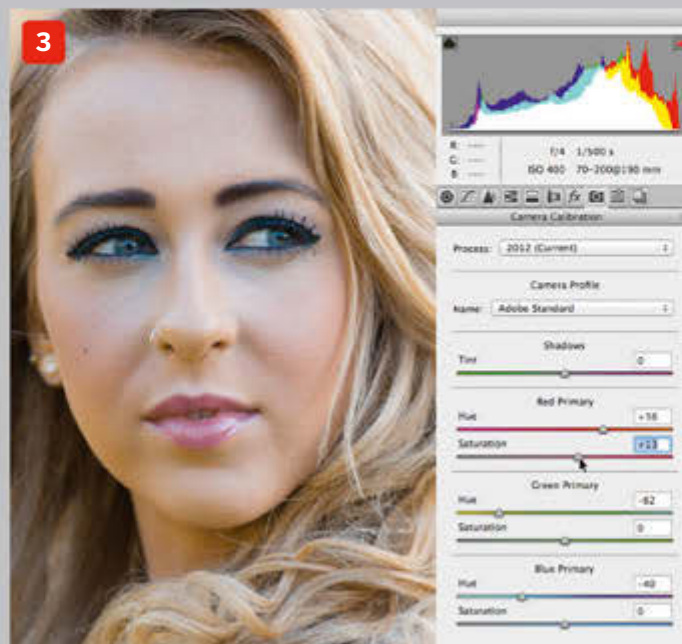
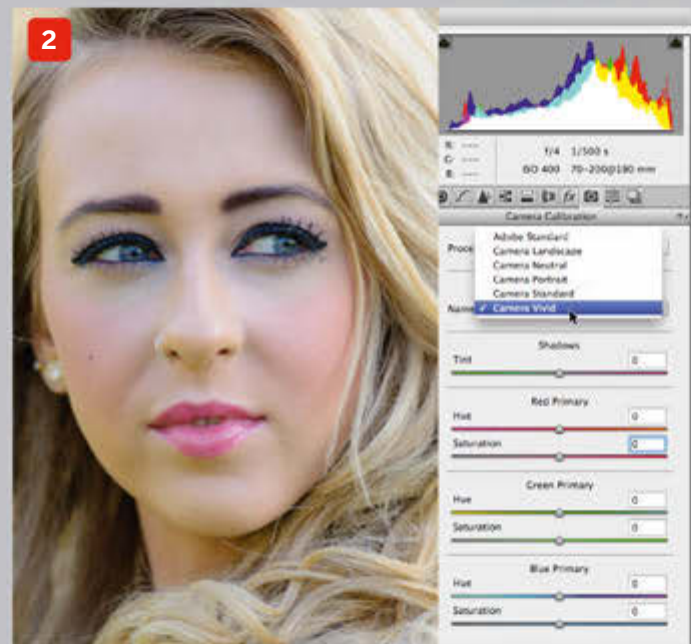
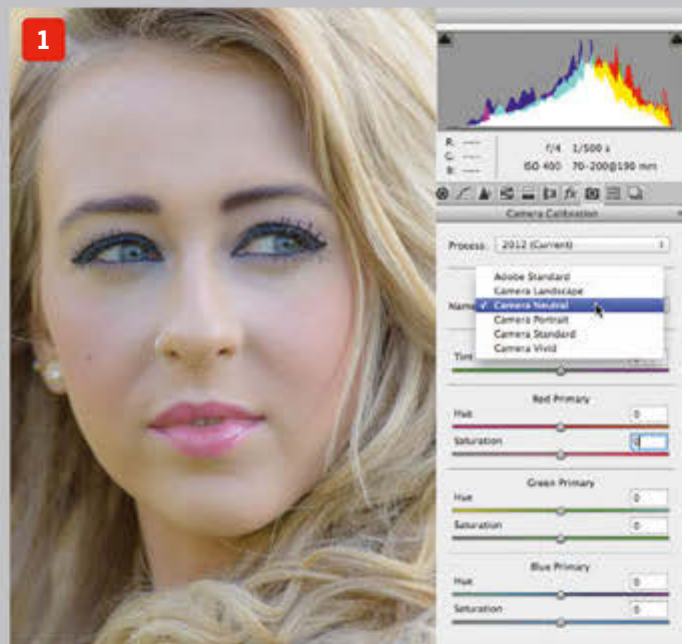
Pop back to the Basic panel to finish improving the image. Set the Shadows slider to +34 to reveal more detail in the dark irises. Drop Clarity to -13 to smooth skin pores. Push Vibrance to +17 to boost weaker colours without over-saturating stronger ones (or skin tones).



Want to know more? NOW TRY THIS...

If you want to take more manual control over the colours and tones of an image, use the Camera Neutral profile. This gives you a very flat contrast and helps avoid clipping detail in the shadows and highlights [1]. It also produces desaturated colours. You can then boost the colour saturation and increase the contrast using the sliders in the Basic panel. For an instant high-contrast shot with vivid colours, choose the Vibrant profile

as your starting point [2]. For more creative looks, experiment with the mix of Primary Reds, Primary Greens and Primary Blues. Here [3] we've adjusted the Hue and Saturation values to create a shift towards a predominantly yellow hue. You can also use the Camera Calibration panel to tint the photo's shadows with the Tints slider. We've boosted the presence of the magentas in this example [4]. ■



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Sharpen your images

Discover how to make your photos appear crisp and sharp without introducing image noise in blurred areas

It can be a challenge to get your shots looking sharp. For starters, some digital cameras have a built-in filter that blurs the shot a little in an attempt to avoid producing moiré patterns. This low-pass (or anti-aliasing) filter can also soften important details such as the fine textures in an insect's eye. If you shoot with a wide aperture then key details may become blurred due to the resulting shallow depth of field. An image that may look nice and sharp on your camera's display can turn out to be soft when viewed on a larger PC monitor.

The Camera Raw Detail panel has a Sharpening section that has a collection of sliders designed to tease out fine details

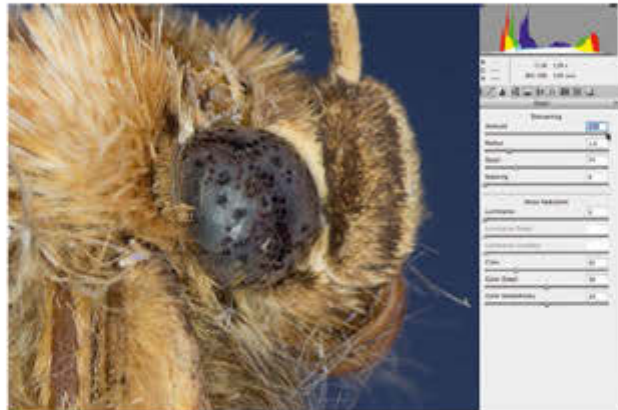
in a soft shot. These post-production sharpening techniques work by increasing the contrast around the edge of details in the image, giving them more impact. However, when you digitally sharpen an image, you risk exaggerating picture noise in smooth areas such as our starting image's clean blurred background. You can also introduce artefacts such as blown-out highlights, clipped shadows and distracting haloes clinging to the edge of the sharpened areas.

We'll demonstrate how to use the Detail panel to restrict the sharpening to key areas, while protecting other sections of the image from being sharpened (and therefore minimising unwanted artefacts).



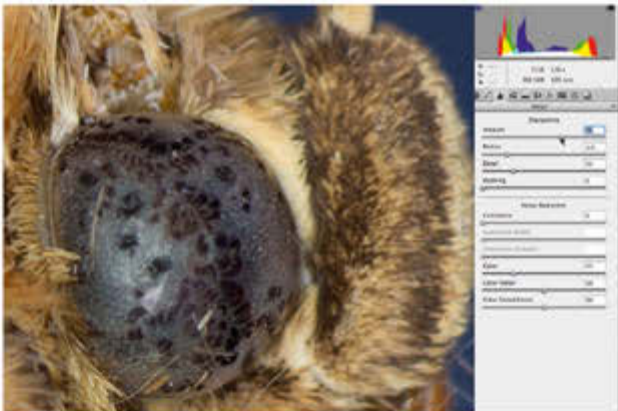
1 Magnify the image

Open PMZ46_sharpen in Camera Raw. To see exactly how sharp the shot really is, grab the Zoom tool. Right click and choose 100% from the pop-up menu. Hold down the space bar to summon the Hand tool and drag to view the eye. Click the Detail panel's tab.



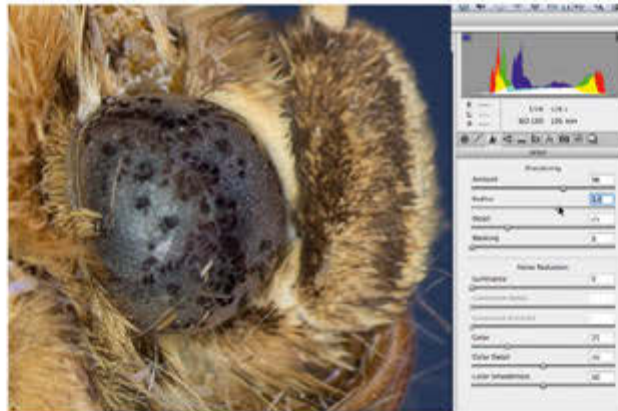
2 Increase the sharpening

By default Camera Raw applies a sharpening Amount of 25 to give the picture a bit more punch. We've set Amount to 0 so that you can see how soft the subject really looks. By dragging Amount to the maximum of 150 you can tease out the fine textures in the moth's eye.



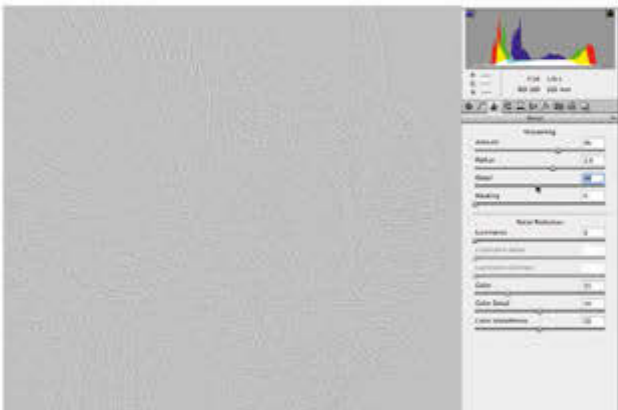
3 Reduce the noise

By increasing the Amount you increase the strength of the contrast change around details in the image. This makes the fly's eye look sharper, but it also exaggerates the picture noise in the smooth blurred background. Drop the Amount to a lower 96 to reduce the noise.



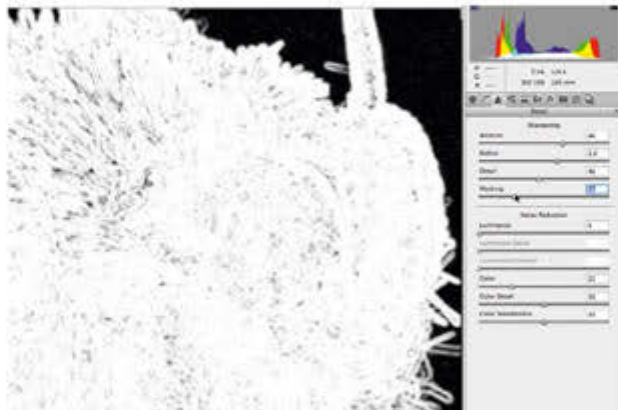
4 Adjust the Radius

Experiment by dragging Radius back and forth. This increases the spread of the contrast change, which helps make contrasting details look sharper. If you combine a high Amount with a high Radius you add black or white lines (or haloes) to edges in the scene. Set Radius to 2.0.



5 Adjust the Detail

The Detail slider helps you get a balance between sharpening the shot while keeping noise to a minimum. Drag it left to soften the scene and remove the noise, or right to reveal more detail and noise. Hold Alt as you drag to get a greyscale preview of the details being revealed.



6 Adjust the Masking

This slider stops noise in smooth areas from being sharpened. Hold Alt and drag the Masking slider until the background appears in black and the fly in white. Now the sharpening adjustments will only be applied to the white areas. You can now boost the Amount to 130. ■

Improve tones

Adjust the highlights, shadows and midtones of a photo either globally or in selected areas

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Improve contrast & exposure

Diagnose a photograph's tonal problems, reveal missing tonal detail, and avoid clipping the highlights and shadows



One of the most common challenges we face as photographers is to capture a correctly exposed scene. If we shoot in manual mode, we may find that the image is either over- or under-exposed.

In this walkthrough we'll demonstrate how to analyse the spread of tones in a photo courtesy of the Histogram, and then use this tool to create a correctly exposed image.

When adjusting tones, you risk clipping the darkest shadows or brightest highlights. Clipped shadows will lack detail and print out as pure black. Clipped highlights will also lack detail and print out as pure white. We'll demonstrate how to use the Histogram's clipping warning tools so that you can avoid losing detail in important areas while increasing contrast in the scene.

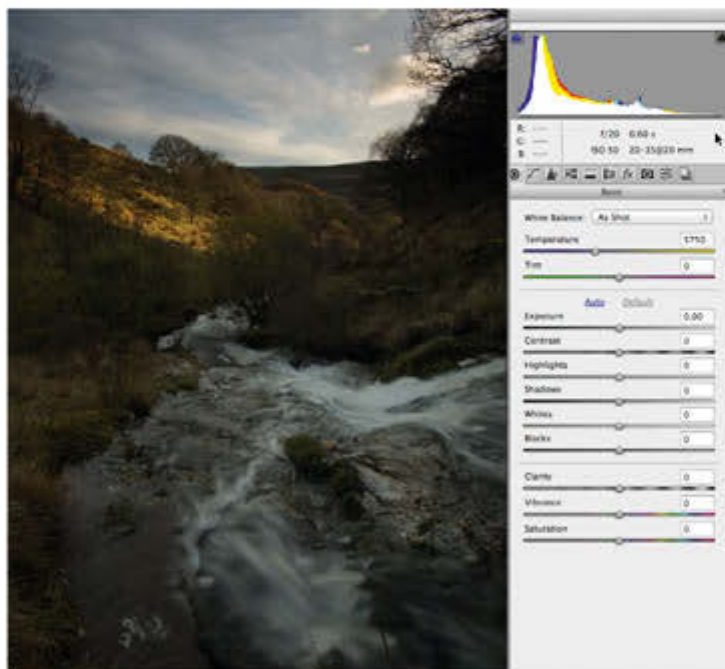
In contrasting lighting conditions your camera may struggle to correctly expose both the shadows and the highlights at the same time. In our starting image we have a bright sky, a distant sunlit hill and a large section of foreground river in shadow. The camera has metered to capture sky detail, but this has caused the shaded foreground to be very under-exposed. The details in the foreground lack contrast too.

Camera Raw is packed full of selective tone-tweaking tools that enable you to create a more balanced exposure, with detail in both the shadows and the highlights. We'll also demonstrate how to increase the contrast between shadows and highlights, which will help make objects and textures in the scene stand out more effectively.

BEFORE

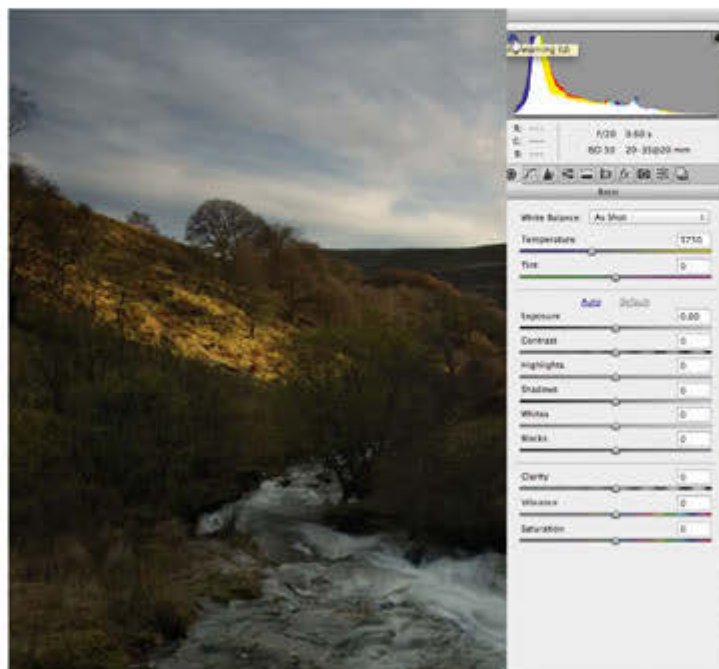






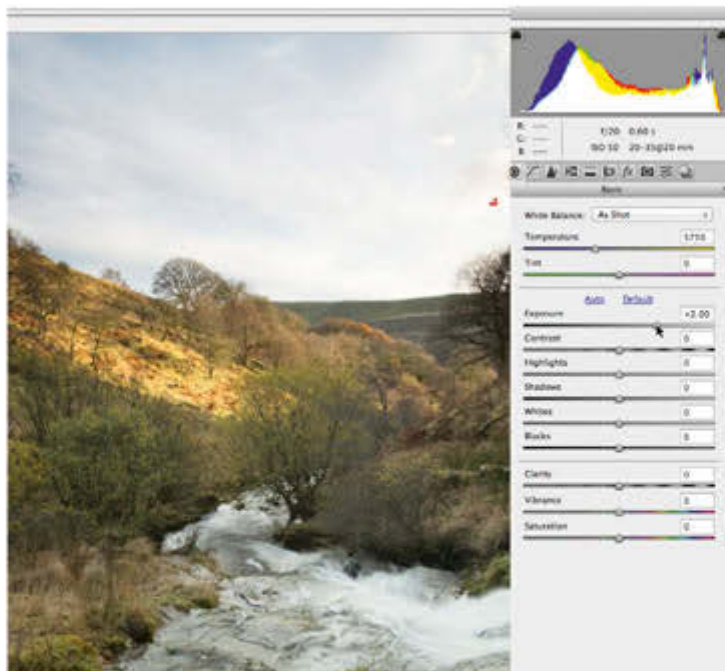
1 Analyse the histogram

Open PMZ102_exposure in Camera Raw by double clicking the thumbnail in Adobe Bridge. Take a look at the Histogram graph. The graph peaks towards the left, indicating that there are lots of strong shadows in the image. The graph dips in the middle, indicating some midtone detail. It plummets towards the right, indicating a few weak highlights. This is exactly as expected with a dark, gloomy image like this one.



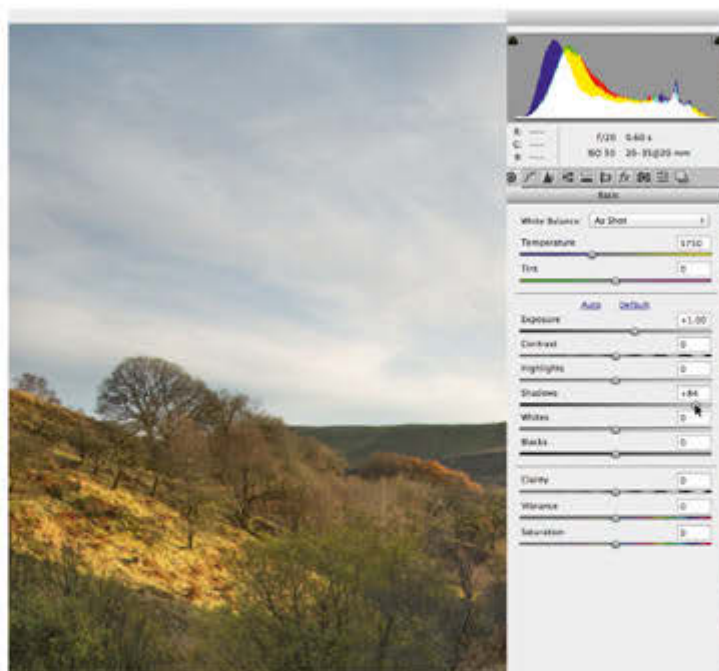
2 Shadow clipping

Click the blue Shadow clipping warning icon at the top left of the Histogram (or press U for Under-exposed). Any clipped shadows will show up as patches of blue. You can see a few clipped shadows at the right of the photo. Press O (Over-exposed) to turn on the highlight clipping warning. This will display over-exposed highlights in patches of red. At this stage, there are no clipped highlights in our unprocessed under-exposed image.



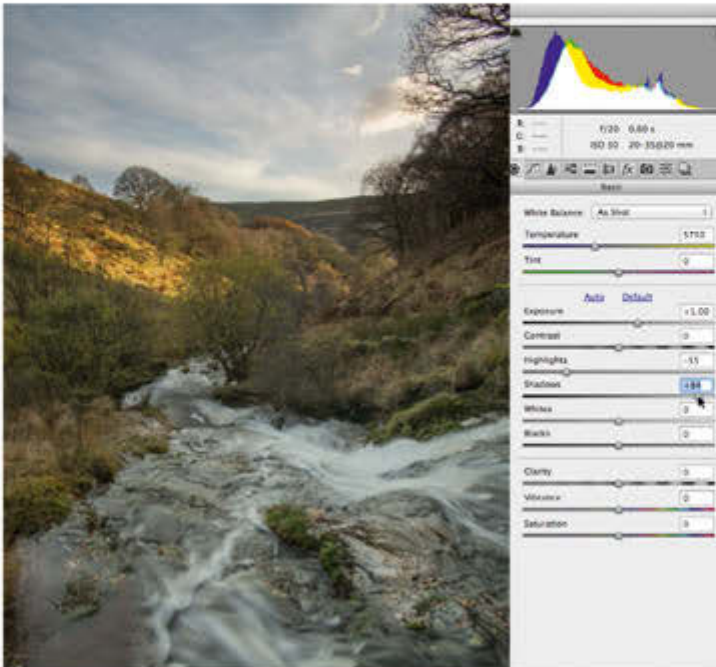
3 Boost Exposure

The clipping warnings will help you keep clipping to a minimum as you reveal detail where it's needed. On location we could have opened up our camera's aperture to let more light hit the sensor. The Exposure slider lets us do a similar job. If you drag it to 2.00 it's the equivalent of opening the aperture by two f-stops. This lightens up the shadows, but red highlight clipping warnings indicate that we're losing some sky detail.



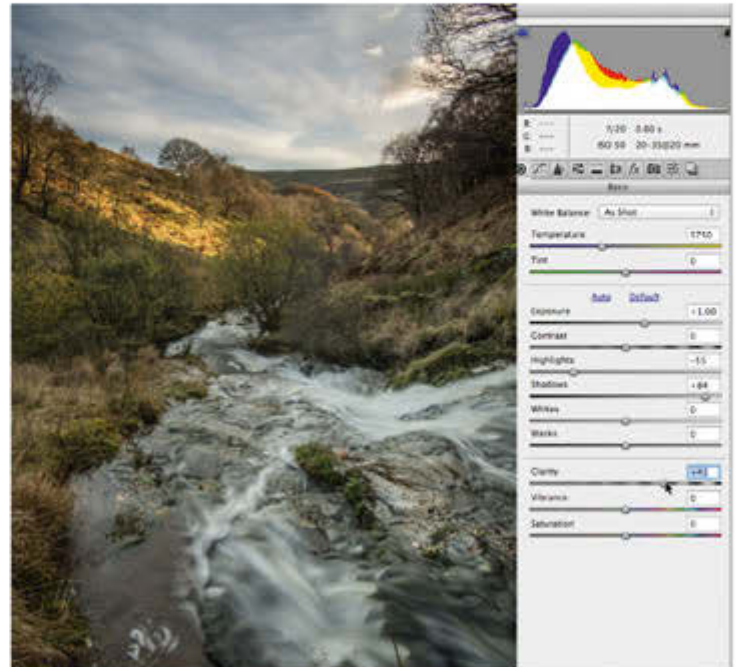
4 Brighten the shadows

Drop the Exposure slider to +1.00. This loses the red highlight clipping warning but reintroduces some blue shadow clipping. You can brighten up the shadows without over-exposing the highlights using the Shadows slider. Drag it to +84. You can now see more shadow detail in the foreground. It's worth leaving a hint of shadow clipping because this means that the shot has some black pixels in the shadows.



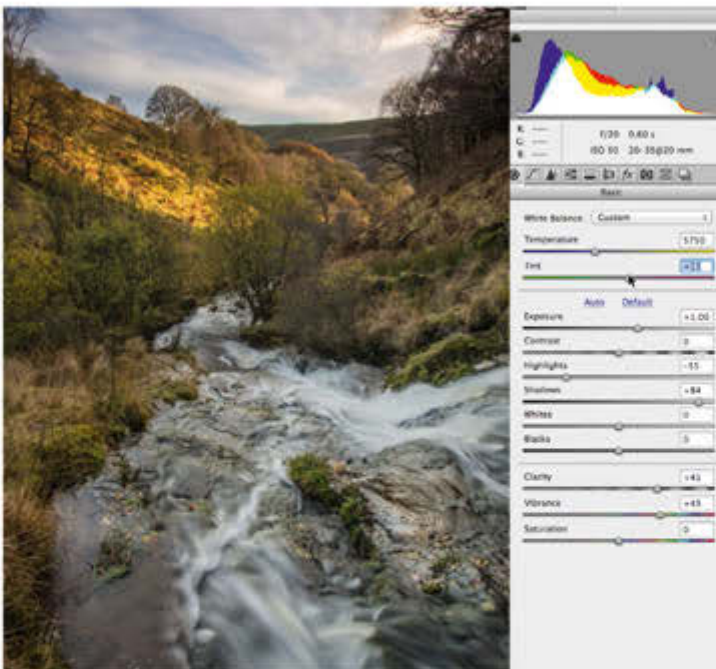
5 Recover the highlights

The exposure boost we created in step three has brightened the sky a little too much, and we're losing some detail. To claw back more highlight information without altering the shadows, drag the Highlights slider left to -55. This helps restore colour and detail to the brighter sky. The histogram graph has slid to the right, indicating that our processed picture now has a healthier spread of shadows, midtones and highlights.



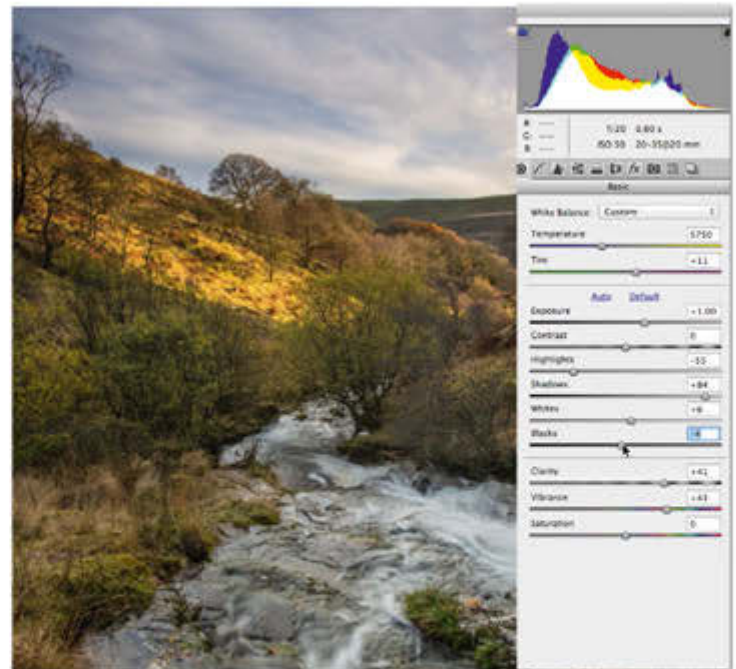
6 Adjust Clarity

Once you've created a more wider spread of shadows and highlights, turn your attention to the midtones. By increasing the midtone contrast, you can make subtle textures and details stand out more effectively. Drag Clarity to +42. This brightens the foam on the water and darkens the midtones on the rocks. This subtle increase in midtone contrast gives the water more impact. It also adds a few clipped shadows, but we're not losing important detail in these areas.



7 Enhance the colour

When making dramatic tonal changes it's worth pressing Q to cycle between before and after views of the processed picture. This helps you see how your image is shaping up. Boost Vibrance to +43 to make the various colours stand out. The foaming water looks a little green, so counteract this unhealthy tint by going to the White Balance section of the Basic panel and dragging Tint to +11. Go back to Single View.



8 Make a contrast tweak

You may find it confusing to understand the difference between the Highlights and Shadows sliders and the similar Whites and Blacks. For maximum contrast, a photo should feature some black pixels and some white ones. If you drag Whites to +6 then a red highlight clipping warning patch will appear on the brightest cloud. This is fine because there's no crucial detail being lost here. Drop Blacks to -4 for a hint of shadow clipping. ■

Reveal detail

Target and tweak the highlights and shadows of a photo independently to reveal missing tonal detail

In the starting image for this tutorial the foreground mountains are in shadow due to the clouds, but the distant sunlit hills and sky are much brighter. If we meter the camera to capture detail in the shadows then we blow out the highlights in the distance. As it's harder to recover missing highlight detail than it is shadow, we've prioritised the highlights when setting the exposure. As a result, our unprocessed raw file features a large area of under-exposed shadows that lack

detail. We need to brighten up the shadows without over-exposing the highlights. The Camera Raw Basic tab enables you to combine global exposure adjustments that brighten or darken the entire image with local adjustments that enable you to adjust the shadows or highlights independently. By combining global and local adjustments, you can reveal detail precisely where its needed and produce a photo with correctly exposed shadows and highlights. You're editing a raw file, so there will be much more tonal detail to work with.



1 Adjust Exposure

Open PMZ92_shadowhighlight in Camera Raw. You can see from the histogram that the image features strong shadows and a few weak highlights. Drag the Exposure slider to +0.85. This reveals more shadow detail, but the highlights now look a little too bright.



3 Boost the colour

When you brighten up under-exposed shadows, the colours that are revealed in these areas tend to look drab. By dragging Vibrance to +48 you can boost weaker colours in the shadows without over-saturating strong highlights in the brighter areas.



2 Adjust the shadows

Drag the Highlights slider down to -30 to correctly expose them. To reveal more shadow detail without interfering with the correctly exposed highlights, drag the Shadows slider right to +50. The shadows in the histogram have slid right a little, indicating their brighter status.



4 Increase the midtone contrast

Drag the Clarity slider right to +18. This increases the midtone contrast and makes the textures in the rocky shadows stand out more effectively. We're only adjusting the midtones so the correctly exposed shadows and highlights remain unaltered. Boost Saturation to +8 for extra colour.

BEFORE





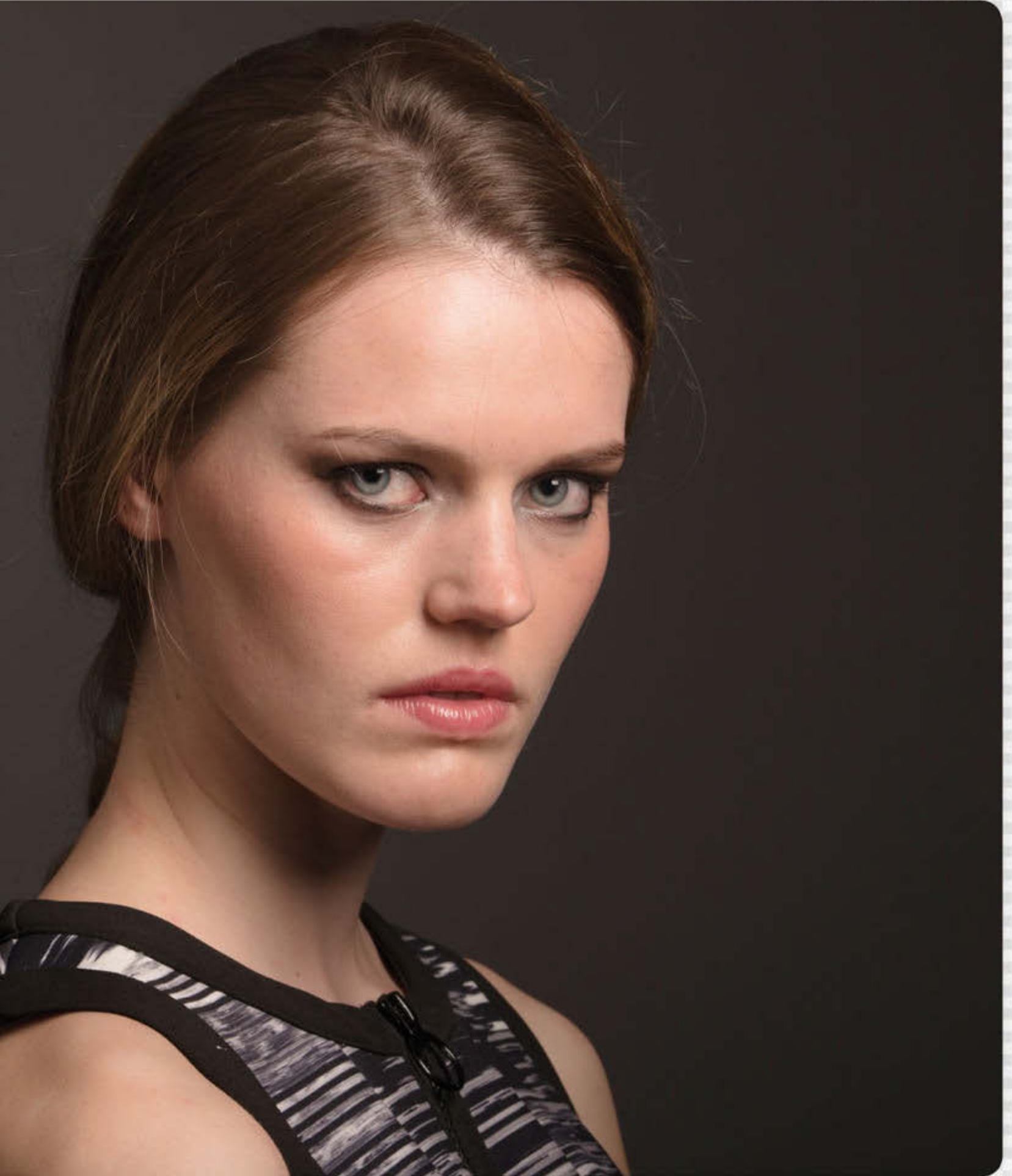
Use curves to improve tones

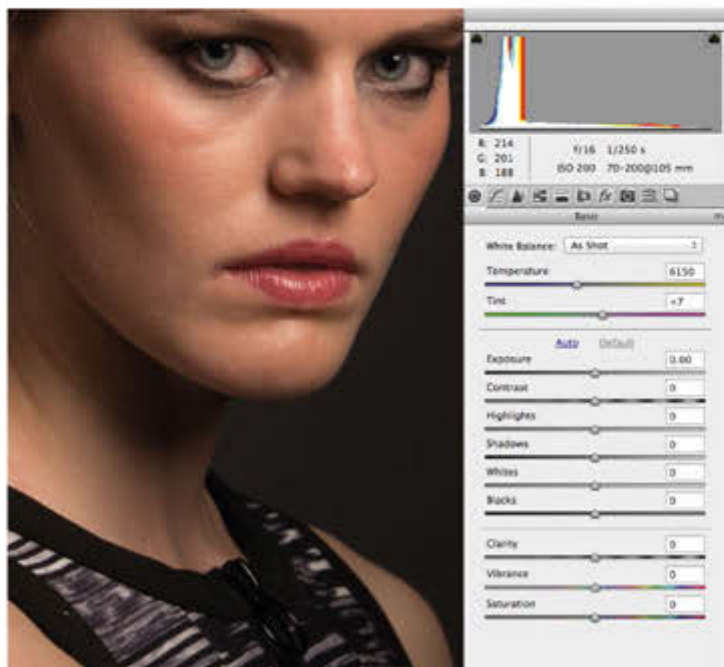
Target and adjust specific tones in an image by editing the shape of the tone curve in Camera Raw

Camera Raw recreates a photo's shadows, midtones and highlights using a range of tonal levels. The darkest blacks have a level of 0, while the brightest highlights have a level of 255. All the shades in a picture are produced using levels that fall between these two extremes. When you import an unprocessed raw image into Camera Raw, you will see the tones created by its input levels. These are tones that are captured using the camera's aperture and shutter speed settings. In the case of our starting image, the shot is under-exposed. The shadow input levels are too low and lacking in detail. We need to remap these low (dark) input levels to higher (brighter) output levels. In the Histogram window, our starting image's highlights peter out before they hit the far right of the graph.

This indicates that the highlight input levels aren't as strong as they could be, so we can remap these too.

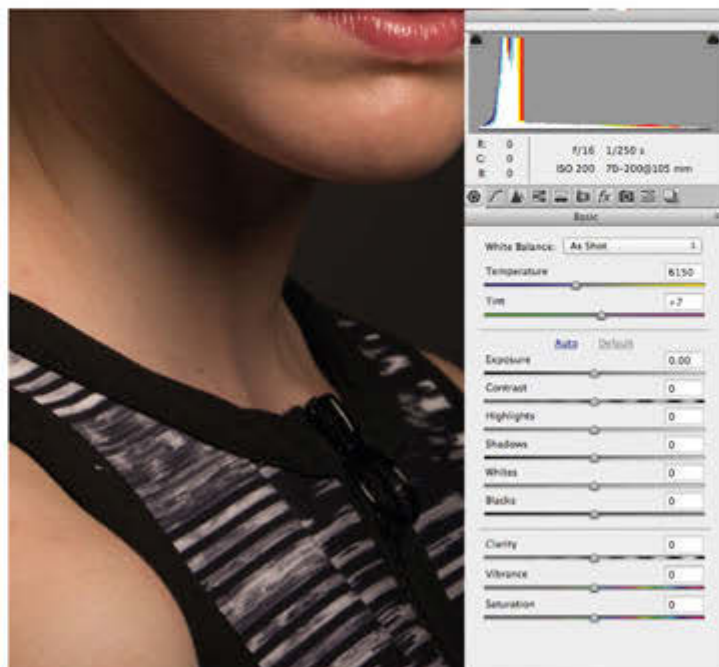
The Basic panel's tone-tweaking tools (such as the Shadows and Highlights sliders) are designed to target a specific range of input levels and remap them to new output levels. In most cases you can overcome typical problems with exposure using these sliders. An alternative way to target and adjust a specific range of levels can be found in the Tone Curve panel. This tool also uses a histogram to present the image's current input levels as an undulating graph. A diagonal straight line crosses the histogram, from the darkest section at the bottom left to the brightest section at the top right. By making parts of the line curve up or down you can lighten or darken the levels of specific tones on the underlying histogram.





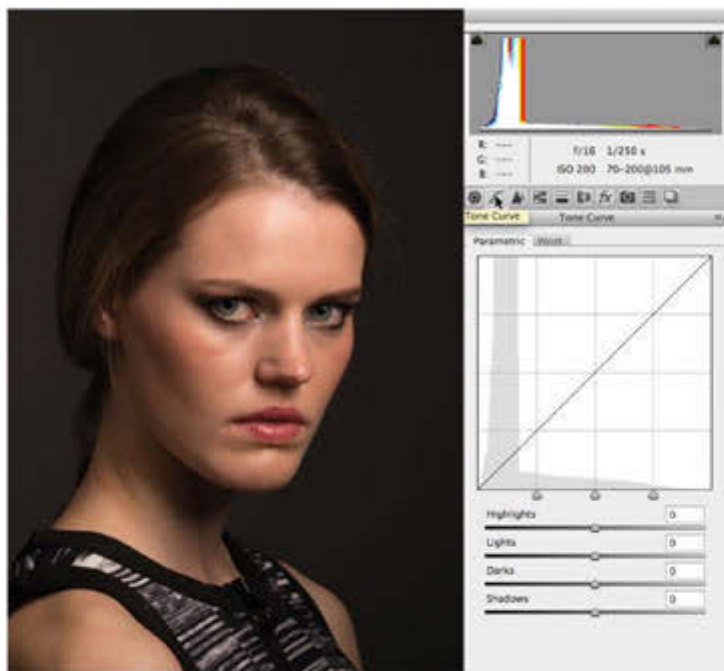
1 Examine the levels

Open PMZ52_curves in Adobe Camera Raw. To get a clearer understanding of the tonal levels that make up the shot, grab the Zoom tool. Move the Zoom tool over the brightest area that you can find, such as the white patch on the dress. Below the Histogram you'll see the RGB values of the sampled area. In this example we have a value of 214, 211 and 188. A pure white area would have levels of 255, 255, and 255.



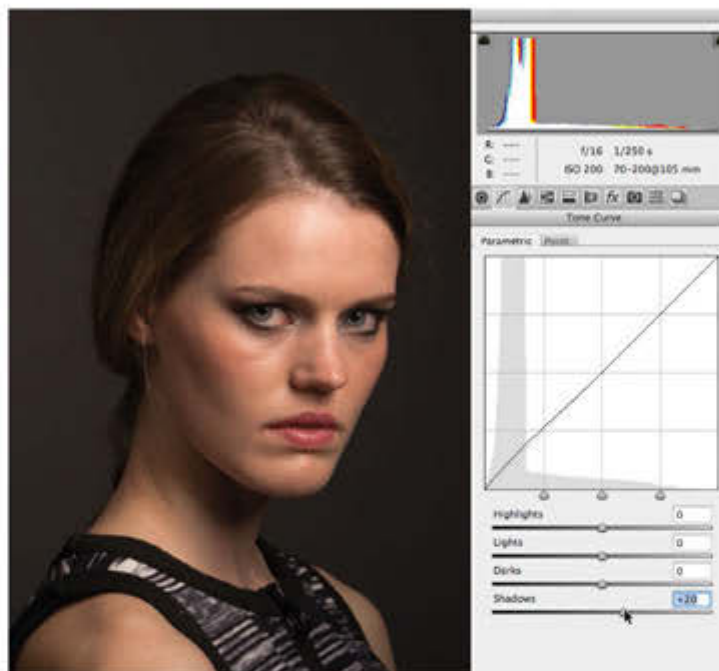
2 Sample the shadows

From the sampled level we can see that the brightest whites are quite dull and under-exposed. Press U to turn on the shadow clipping warning. You'll notice a blue patch of clipped pixels on the dress. Move the Zoom tool over this area to take an RGB reading. This clipped section has RGB values of 0,0, and 0. This indicates that this part of the picture is pure black, and will print with no detail.



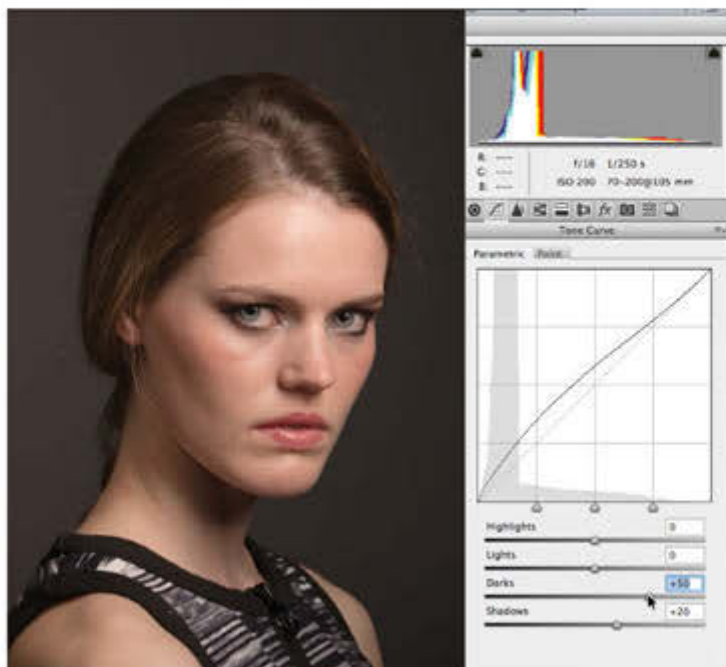
3 Open the Tone Curve panel

To brighten up this under-exposed shot and reveal more detail in the shadows and midtones, click the Tone Curve panel. Curves come in two categories – a Parametric curve and a Point curve. The Parametric curve is easier to use because it breaks the curve up into four tonal regions – Shadows, Darks, Lights and Highlights. You can use sliders to target and adjust a specific region without altering tones with different levels.



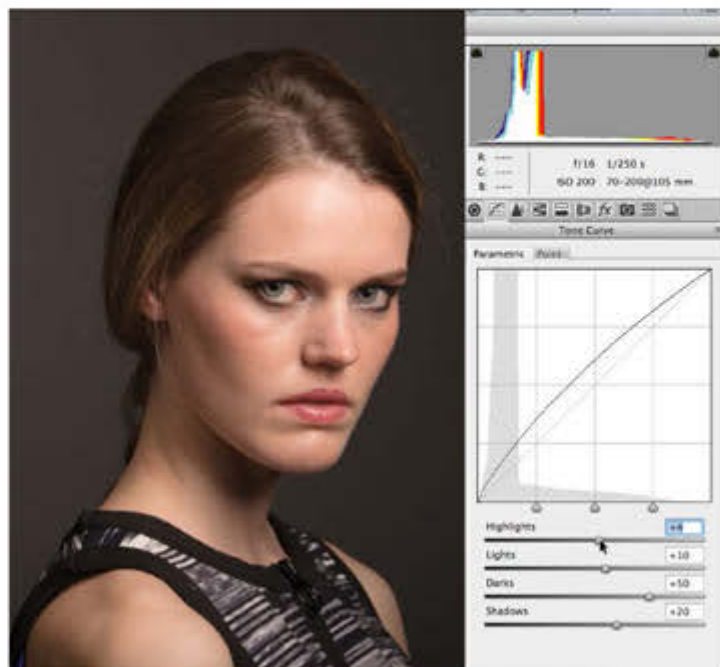
4 Adjust the shadows

Initially, our curve is a straight diagonal line. To start curving it (and remapping the input levels to new output levels) drag the Shadows slider right to +30. This causes the lower left section of the diagonal line to curve upwards. As this part of the curve overlaps the darker sections of the histogram graph, it remaps these shadow areas to brighter output levels. The remapped shadow tones in the Histogram window will slide right a little.



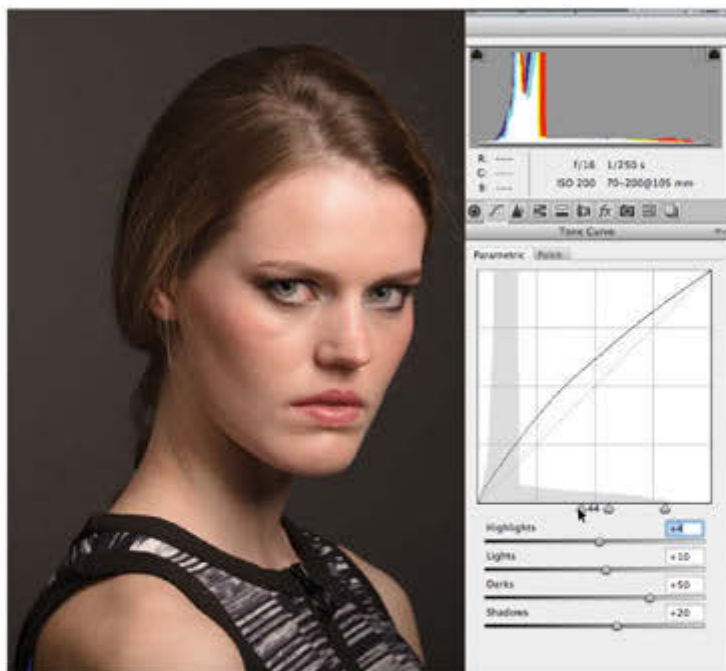
5 Adjust the midtones

To lighten up the midtones, drag the Darks slider to +50. This pushes the middle of the curve upwards. This section of the curve overlaps the midtones on the histogram, so they are remapped to a lighter level. The subject's midtones and shadows now look lighter, and more detail is visible. We still have a little shadow clipping on the dress, but there's no important detail here, and it's good to have some black shadows for contrast.



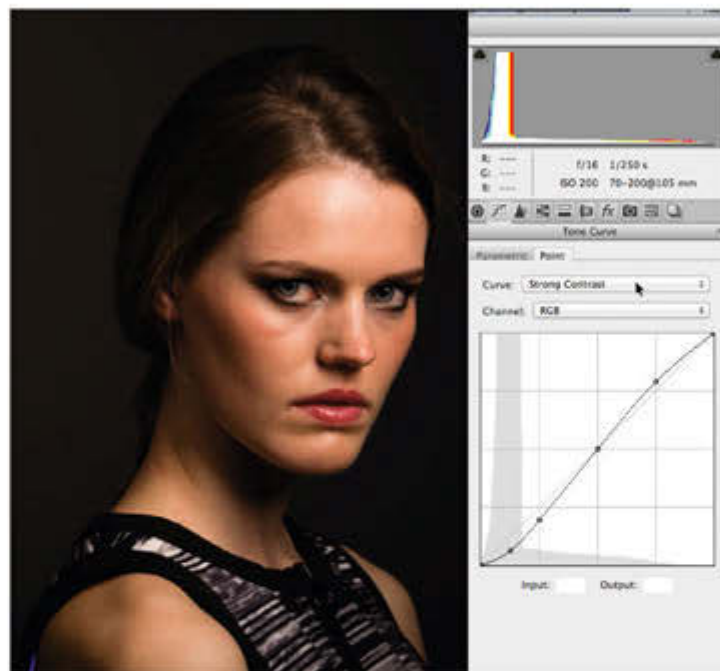
6 Adjust the highlights

Press O (for over-exposed) to turn on the Highlight clipping warning so that you can spot blown-out (pure white) highlights as patches of red. To make the highlights slightly brighter, push the Lights slider to +10 and the Highlights slider to +4. The top right of the curve will move upwards, brightening levels at the far right of the histogram graph. Don't push the highlights too far or you'll exaggerate the unflattering sweat reflections on the skin.



7 Fine-tune the look

You can fine-tune the effect of the four sliders by tweaking the range of levels that they alter. To let more midtones fall under the influence of the Shadows slider, go to the bottom of the Parametric curve's histogram. Here you'll find triangular control points that indicate the boundary between each slider's region. Drag the left control point from its default value of 25 to 38. This lightens up the midtones a little more.



8 Add contrast with a Point curve

The adjacent Point Curve tab is handy if you have a shot that lacks contrast. The Curve drop-down menu allows you to choose preset point curve adjustments such as Strong Contrast. This creates a classic S-curve shape. A point pulls the curve down at the left to darken the shadows. Another point pulls the curve up at the top right to lighten the highlights. You can drag the points to fine-tune the results. ■

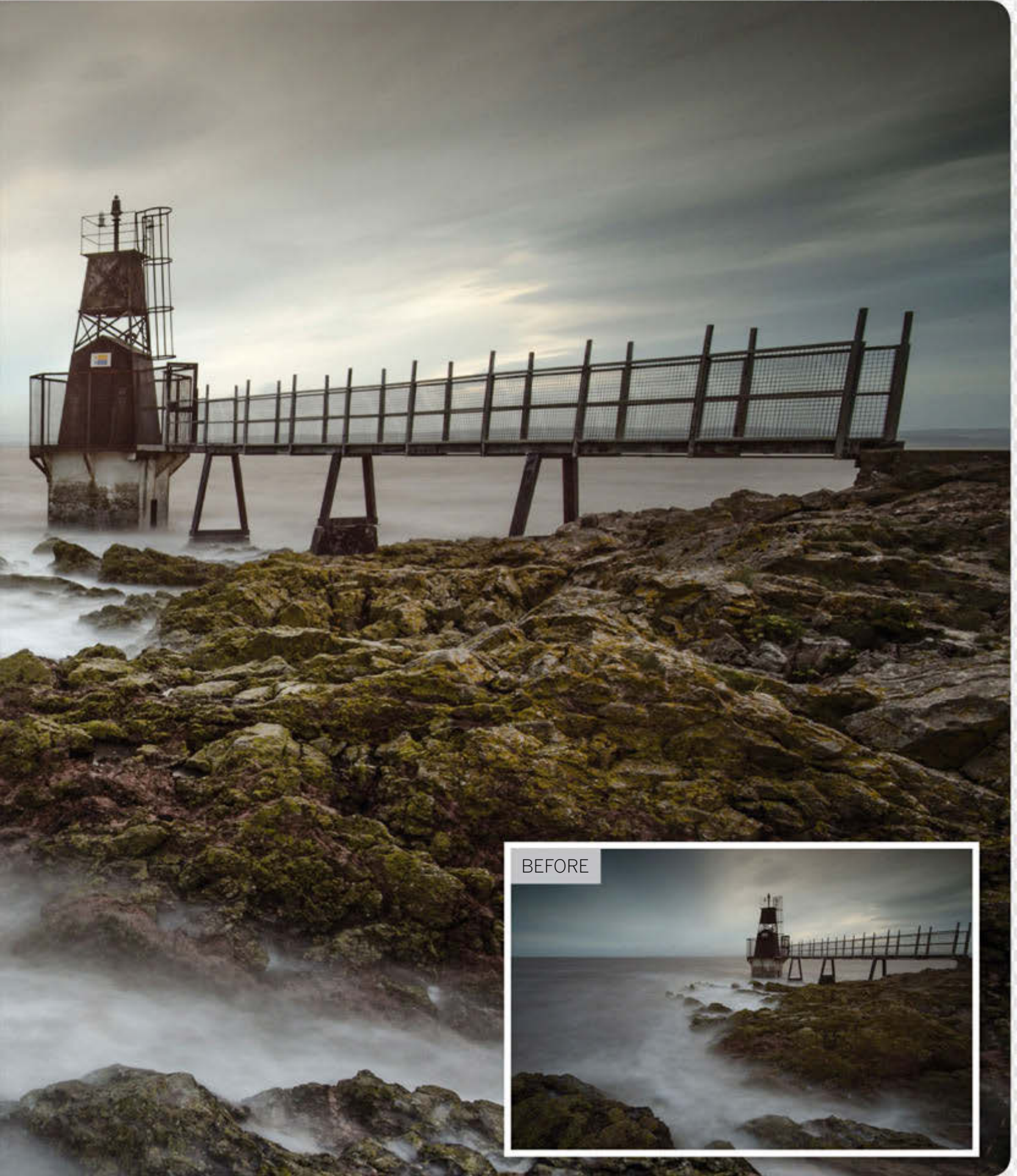
Dodge and burn with the Adjustment Brush

Learn how to make selective brush-based tonal adjustments to tease out detail in your photos where it's needed

The Camera Raw Basic panel has plenty of tone-targeting sliders that are designed to selectively adjust a shot's shadows, midtones and highlights. The Shadows slider lightens shadows without over-exposing stronger highlights. You can claw back missing highlight detail without under-exposing correctly exposed shadows thanks to the Highlights slider. The Clarity slider enables you to increase midtone contrast and make subtle textures and details pop out from the processed picture. Camera Raw also has tools that enable you to make graduated tonal adjustments, so you can darken a bright sky without altering the correctly exposed terrain in the bottom section of the scene. You can even click the Histogram and see which tonal region is represented by a particular part of the graph. If you drag to the right you can brighten the selected region of tones (such as shadows), or drag left to darken them.

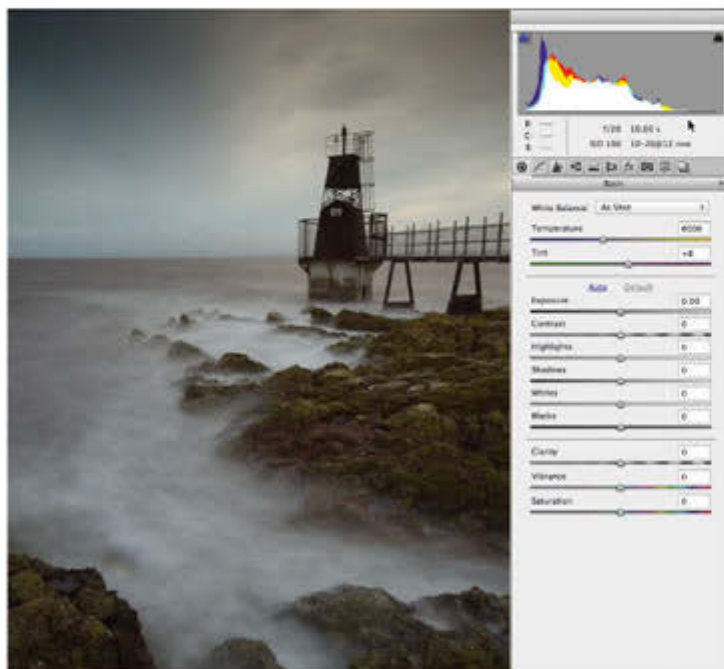
Most tone-related problems can be tackled by applying a combination of the tools or techniques mentioned above, but for even more selective tonal corrections, you can use Camera Raw to mimic the traditional darkroom technique of dodging and burning. By placing a shaped piece of card between the enlarger and photo paper, a photographer could reduce the amount of light hitting parts of the print. This dodging would lighten the masked sections. To darken a particular area, the photographer would cut a shape in a piece of card. The extra light travelling through the hole would darken (or burn) details in the print. We can recreate these dodging and burning techniques using the Adjustment Brush.





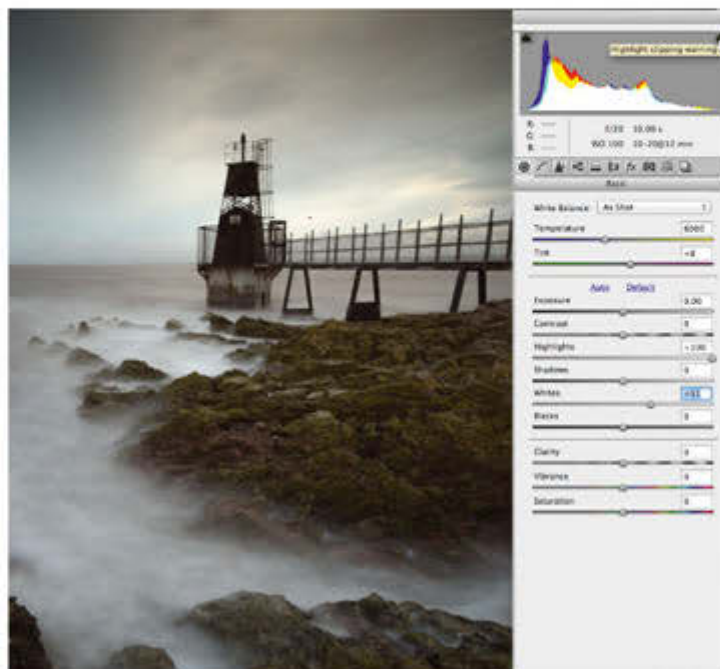
BEFORE





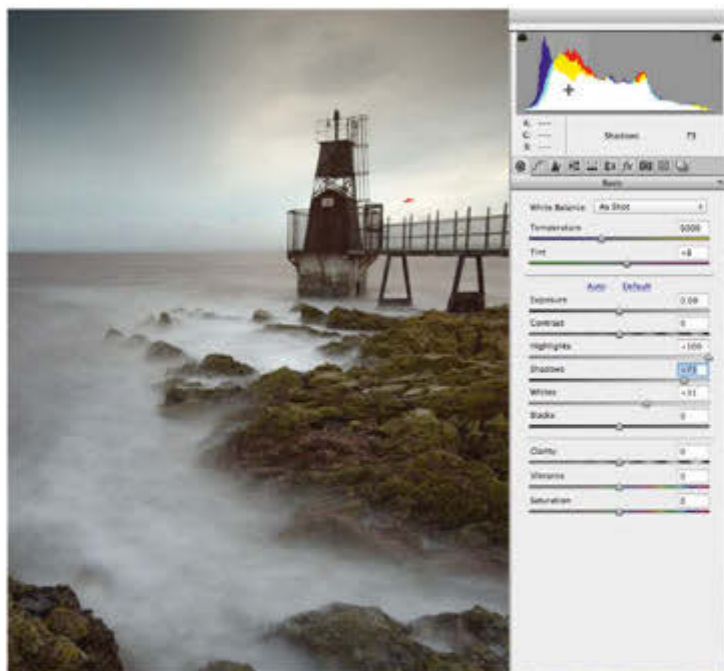
1 Open the image

Open PMZ100_dodge and burn in Camera Raw. The Histogram indicates the presence of strong shadows on the left of the graph, but the tones peter out towards the highlights on the right. The image is under-exposed. Before we make time-consuming selective brush-based adjustments, we should use the Basic panel's sliders to give the photograph a healthier looking histogram with a wider tonal range.



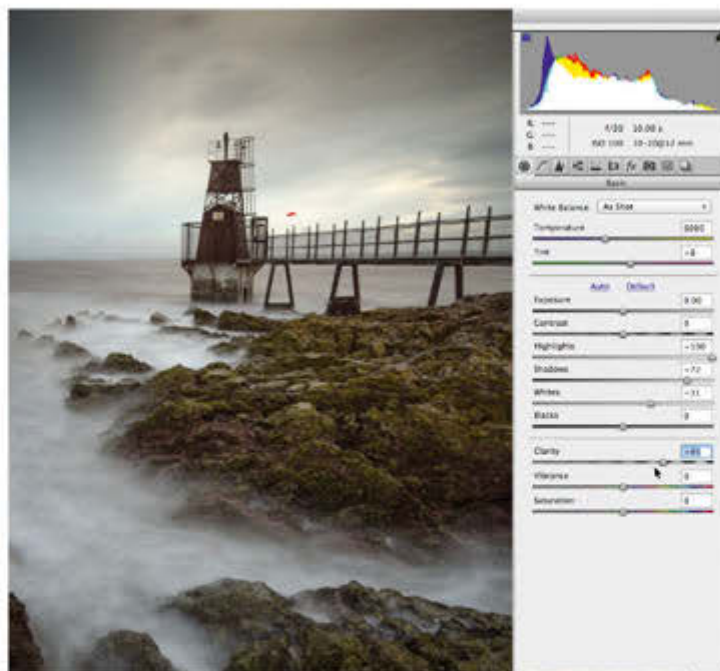
2 Boost the highlights

Place the cursor on the section of the Histogram graph that represents and controls the Highlights. The label Highlights will appear below the graph. Drag right to lighten the under-exposed highlights. The highlight section of the graph will slide to the right, indicating the presence of brighter tones. Drag until the Highlights slider reads 100. Drag the Whites slider right until a hint of red clipping warning appears in the brightest area.



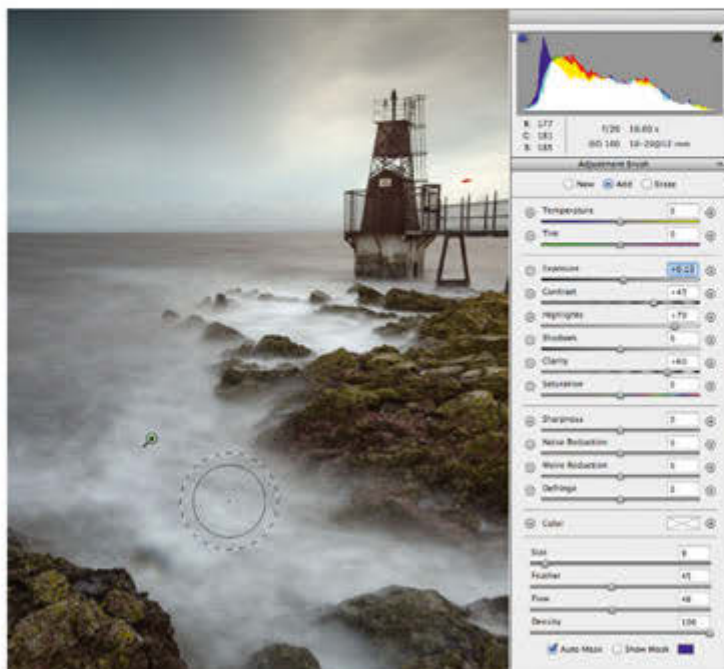
3 Lighten the shadows

You now have a photo that possesses some bright highlights. To reveal more detail in the shadows, click near the left of the Histogram to target the Shadows. Drag right on the Histogram to remap the original shadows to a brighter value. The Shadows slider will move to the right. A Shadows value of +72 is a good starting point. The Histogram graph now has a wider spread of tones, and the image looks more correctly exposed as a result.



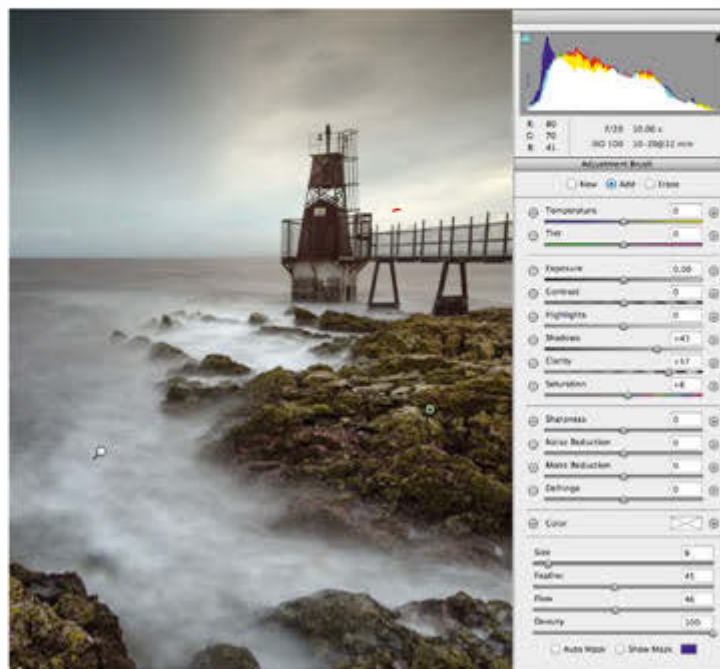
4 Adjust the midtones

The picture is now correctly exposed, but it lacks contrast. Textures such as the motion-blurred foamy water lack impact. This area is a mass of flat contrast midtones. To tease out more detail in the water, increase the Clarity slider to +45. This increase in midtone contrast lightens the water and darkens the greyscale rocks that were hidden just under the surface, making them more visible.



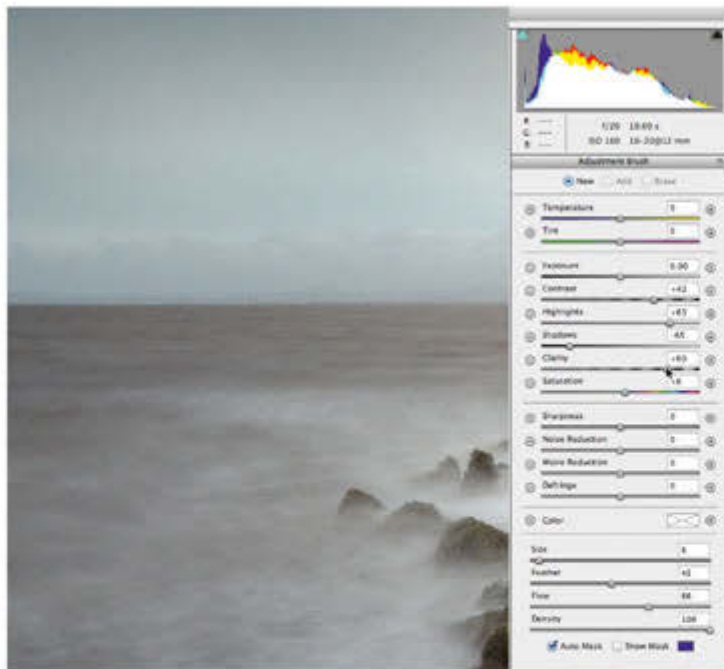
5 Dodge the water

Use the Select Zoom Level tool to view the image at Fit In View. We've made all the selective tonal tweaks that we can using the Basic panel's sliders, so it's time to grab the more versatile Adjustment Brush from the toolbar. The Adjustment Brush panel will appear. Click to place a pin on the greyscale foamy water. Push Exposure up to +0.15. Set Contrast to +43. Set Highlights to +63. Boost Clarity to 60. Paint with a soft-edged brush over the foamy water to lighten (dodge) it.



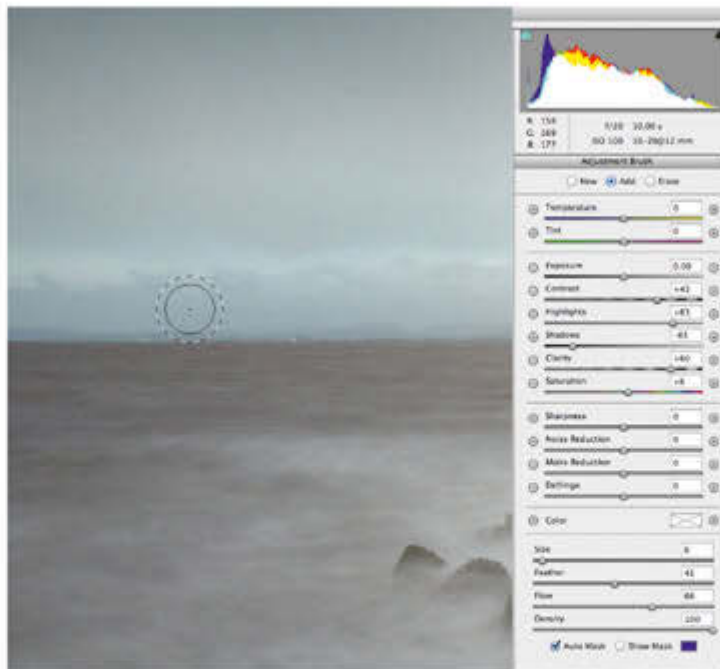
6 Lighten the rocks

Click the New button at the top of the Adjustment Brush panel. To tease out more detail and colour in the rocks, click to place a second pin. Set Shadows to +43 and boost Clarity to +57. Push Saturation up to +6. Paint over any rocks poking out of the water. The settings will lighten the rock's shadows and increase their contrast, which helps emphasise their texture. A hint of shadow clipping will appear, but there's no important detail to lose in these areas.



7 Burn the clouds

The distant grey clouds on the horizon are barely noticeable because they're lost in hazy midtones. We can darken the grey clouds while boosting the contrast of their lighter surroundings to help them stand out. Click New (or press N) to start making a new adjustment. Click to place a pin on the distant clouds. Set Contrast to +43 and Highlights to +63. Drop Shadows to -65. Boost Clarity to +60. Tick Auto Mask.



8 Use Auto Mask

Paint with a small soft brush tip along the horizon to darken the grey clouds and make them contrast with their lighter surroundings. The Auto Masks option stops the effects of the Adjustment Brush from straying below the distinct horizon line. Turn on Show Mask to see which areas are being adjusted and which are being left untouched by this particular pin. We'll look at Auto mask in more detail in the next chapter. ■

The solarised look

Harness the power of the Tone Curve panel to mimic a traditional darkroom image-processing technique

Throughout this chapter we've demonstrated how to remap your photographs' tones to reveal detail where it's needed, including using the Tone Curve panel to selectively adjust shadows, midtones and highlights. You can also use the Tone Curve panel to emulate the darkroom-based solarisation technique made famous by surrealist photographers such as Man Ray. This developing technique harks back as far back as 1920s. At first glance, a solarised photo may look like a negative version of a mono

image. However, in a negative all the shadows and highlights are reversed so that blacks become white and vice versa. In solarised images, only some of the tones are reversed. Another distinctive property of a solarised photo is the sharp white line that appears around high-contrast areas.

The solarisation effect was discovered by accident and is tricky to produce in a traditional darkroom. By combining the Camera Raw Basic sliders with the Point Curve, you can create a solarised image with ease.



1 Desaturate the image

Open PMZ107_solarise in Camera Raw. Kick off by going to the HSL/Grayscale panel and clicking the Convert to Grayscale box. Tick the Auto button to help create a little more contrast. Push Oranges up to +14 to lighten the skin a little.



2 Increase the contrast

Go to the Basic panel. Pop Exposure up to +0.20. Increase Contrast to +22. Boost the Highlights slider to +70 to make the lightest skin tones stand out against the darker background. For darker contrasting shadows, drop Blacks to -30. Drop Clarity to -20 to smooth the skin.



3 Invert the highlights

Click the Tone Curve panel and then click the Point Curve tab. Click to place a control point on the middle of the linear diagonal line at an input and output value of 128. Click the highlight control point at the top right of the line and drag it down to an Output of 0 to create a curve.



4 Fine-tune the effect

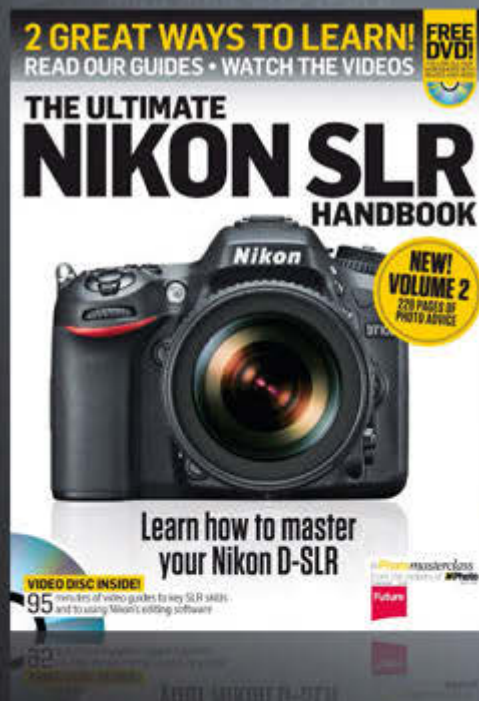
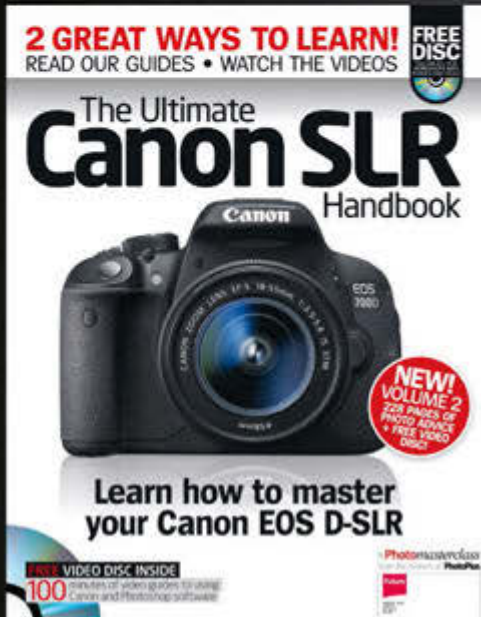
By remapping the brightest highlights from a bright 255 to a dark 0, you've turned them black. For a more striking contrast, drag the central control point upwards so it has an Input of 128 and a brighter Output of 255. In the Basic panel, drop Blacks to -50 for a darker background.

BEFORE



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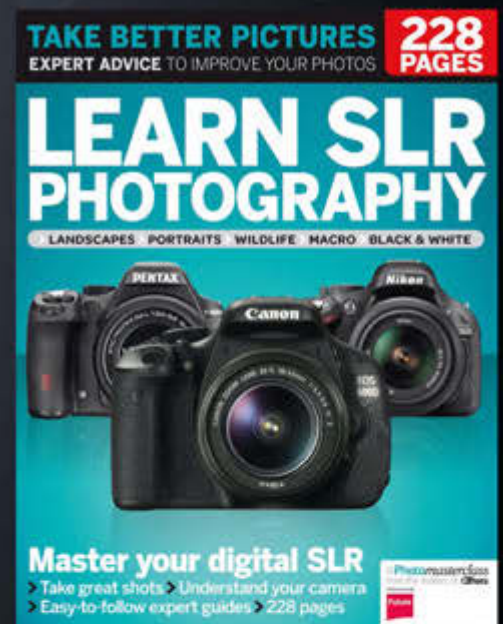
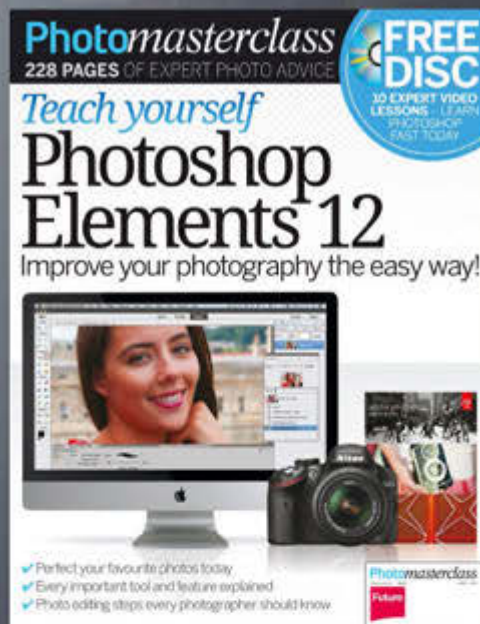
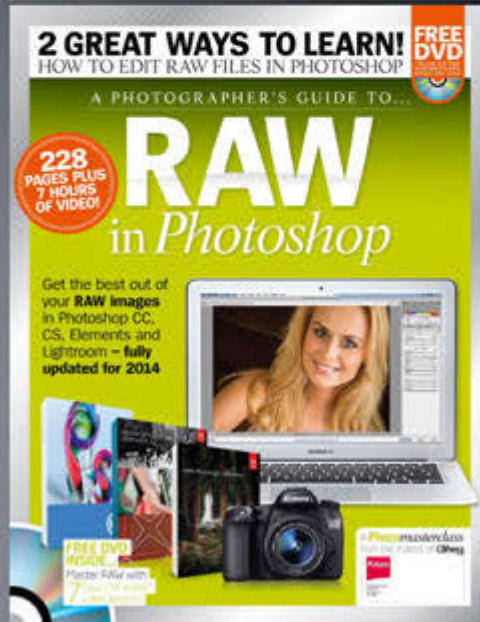
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Improve colour

Sensitively enhance the colour rendition in your photos and add extra interest with creative special effects

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Discover how to diagnose colour-cast problems in your photos, and correct them using white-balance techniques

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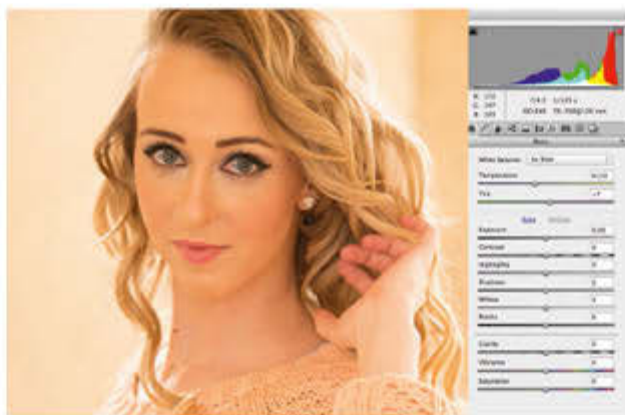


White balance

Discover how to diagnose colour-cast problems in your photos, and correct them using white-balance techniques

Different light sources produce different colour temperatures. To a camera, natural daylight is a cold blue, while artificial indoor light is a warmer orange. Your camera's automatic white balance (AWB) setting attempts to get white details in the scene looking white, so that other colours will be tint-free and natural-looking. If the whites look too warm (orange) the camera will cool them down. If they're too cold (blue) then the camera will warm them up to remove the cold blue colour

cast in the entire image. If the camera balances the whites correctly, the resulting photograph will be tint-free and present the scene's true colours. However, sometimes a photo will look too cold or too warm despite the camera's best efforts. Our starting image suffers from a warm colour cast, which makes the subject's skin tones look too orange. We'll show you how to use the Color sampler tool to identify the presence of colour casts and then apply the effective White Balance tool to create tint-free shots.



1 Sample the whites

Open PMZ32_white balance in Camera Raw. Grab the Color Sampler tool. Click twice to sample the whites of the eyes. If the RGB values are equal, the sampled areas will be a neutral grey. The sampled RGB values are around 24, 168, and 139 so we can see that a tint is present.



2 Counteract the tint

Grab the White Balance tool. Click an area that should be white (such as the eye) to sample it. If the tool detects a tint, it will counteract the colour temperature to warm up or cool down the shot to make whiter whites. The sampled RGB values should become closer.



3 Balance the whites

If the RGB values taken by the Color Sampler are still quite different, click the White Balance tool on a different area until the values are more similar. Here we sampled an area that produced an RGB value of 170, 174, and 175. Our whites are now more natural tint-free colours.



4 Boost the Vibrance

Our raw file's colour temperature was a warm 6150. Thanks to the White Balance tool, the Temperature slider now reads a cooler 3800, creating a Custom White Balance preset that suits the image. Boost Vibrance to +30 to enhance the colours without over-saturating the skin tones.



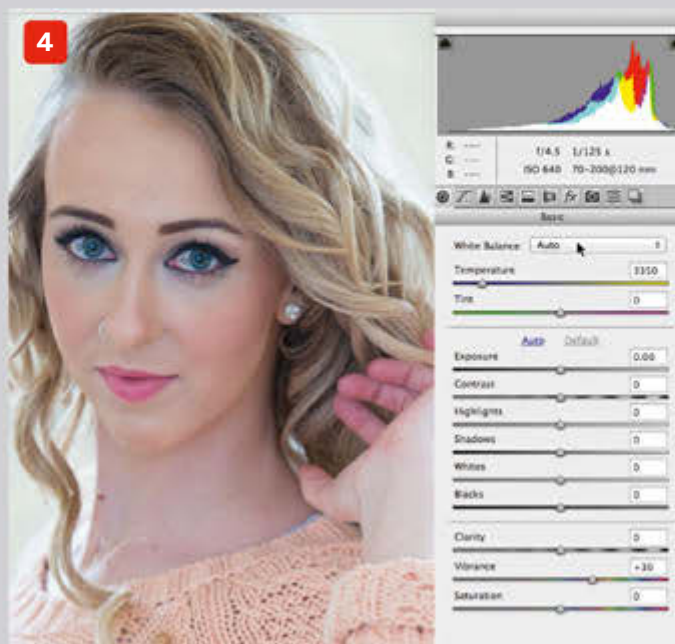
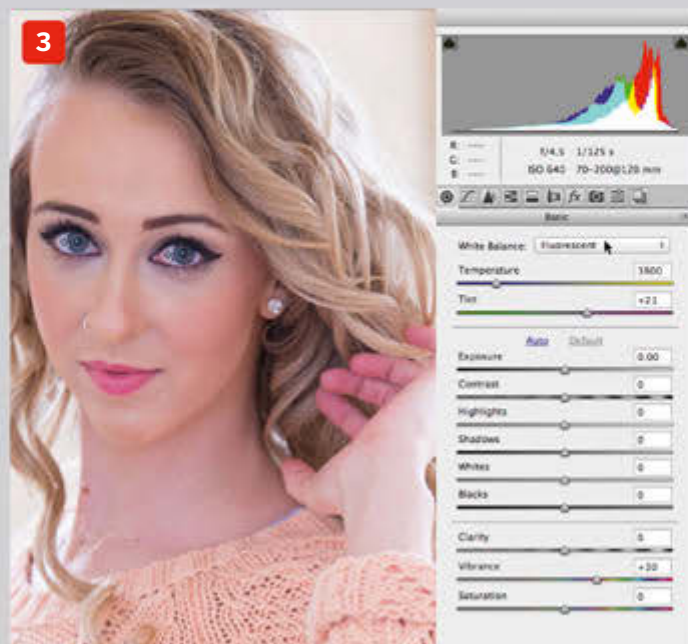
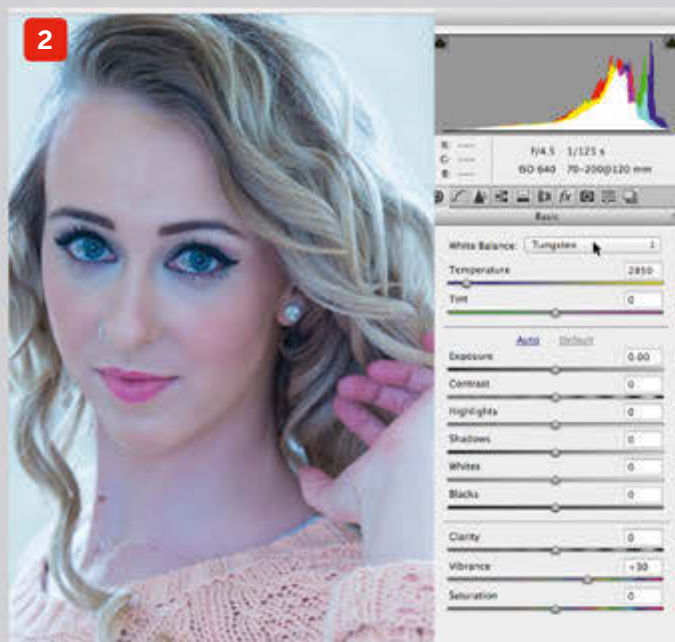
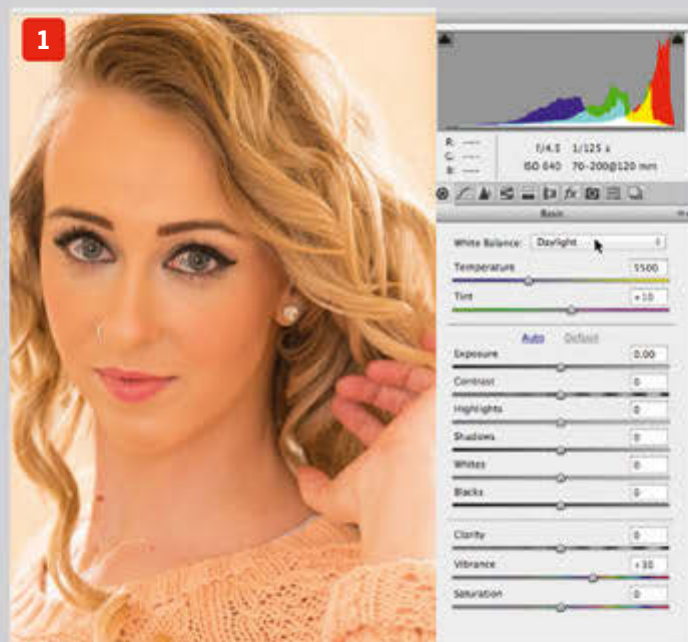
BEFORE



Want to know more? NOW TRY THIS...

Your camera's menu has a series of white balance presets designed to help it capture true colours in a range of lighting conditions. Camera Raw also has white balance presets to help counteract colour casts or change the mood of a shot by deliberately adding tints. Daylight has an average colour temperature of 5500 degrees K, so the Daylight preset cools down our warmer 6150 starting image, but it still looks too orange

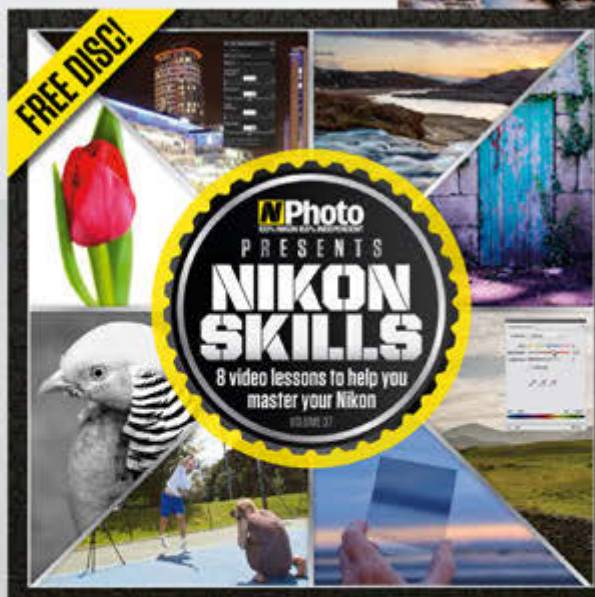
[1]. Artificial tungsten light adds a warm yellow hue, so the tungsten preset counteracts this with a cold blue temperature setting of 2850 [2]. Fluorescent lights can add a greenish hue, so the Fluorescent preset adds a +21 hint of magenta to counteract the green, as well as cooling the photo to 3800 [3]. Auto does a similar job to the White Balance tool, which produces the best results than the other presets in this instance [4]. ■



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Make spot colour effects

Isolate and preserve the colour of a specific element in a monochrome conversion for a stylish creative effect

One way to draw the eye to a specific subject in a photograph is to preserve that object's colour information while converting the rest of the image's tones to monochrome. This spot colour technique might be considered by some to be a bit tacky, but for others it's a popular creative processing technique that's fun to indulge in. For example, you can't wander through a London street without seeing spot-colour postcards that feature iconic red buses against a monochrome backdrop.

The HSL panel enables you to target and tweak a photograph's colour strength (Saturation) and brightness (Luminance), so you can enhance a landscape's drab sunset by endowing it with more vibrant reds and oranges, while lightening the tones of under-exposed green hills to make them more prominent. In this creative walkthrough we'll use these HSL controls to selectively desaturate all the colours in our starting image except for those of the fly. We'll show you how to customise the selective slider-based colour adjustments by applying desaturating strokes via the Adjustment Brush. This enables you to restrict specific colours to the main subject (in this case the fly) while removing traces of the same colours from the background.

BEFORE



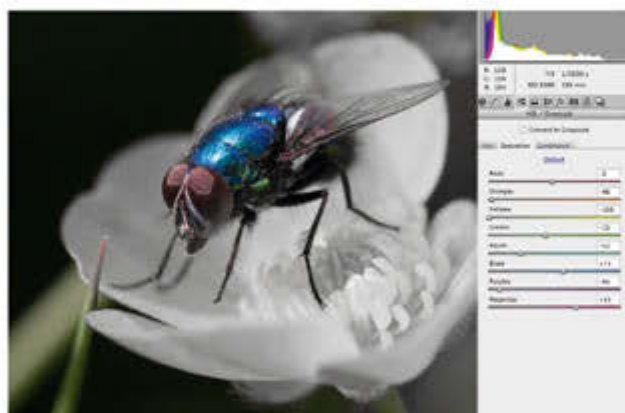
1 Desaturate the image

Open PMZ85_colour. Click the HSL/Grayscale tab. Normally, we'd create a monochrome image by clicking the Convert to Grayscale box, but to preserve traces of colour we need to desaturate the image manually. Click the Saturation panel and drag all the sliders down to -100.



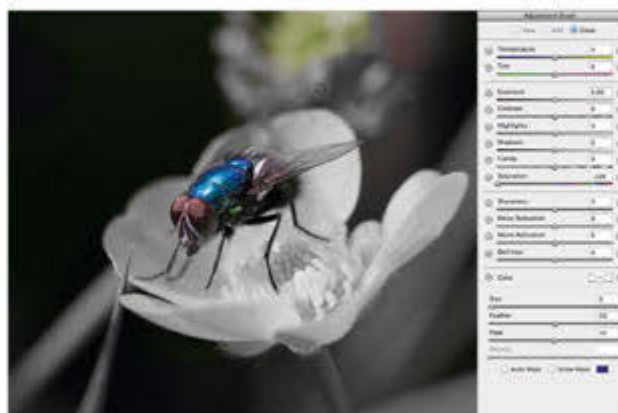
2 Restore selective colours

Grab the Targeted Adjustment tool from the tool bar. Because you're working with the Saturation panel, this tool will automatically be set to target and adjust saturation. Click parts of the fly and drag upwards to restore colour to the sampled sections.



3 Boost the greens

As you sample and drag the cursor, similar colours in the rest of the frame will become saturated too, such as the green stems. We'll restore these to mono in the next step. Avoid increasing the strength of the yellows to keep the flower looking monochrome.



4 Desaturate background colours

Once most of the fly's colours have been restored, grab the Adjustment Brush. In the Adjustment Brush panel, set the Saturation slider to -100. Set Size to 8 and choose a Feather of 45. Set Flow and Density to 100. Paint to remove unwanted traces of background colour. ■

Adjust colours

Use the HSL sliders in Camera Raw to target and tweak the saturation of specific colours to make them pop!

The colours that you see onscreen don't always look the same when you print your picture. This is because your computer's display creates millions of colours by mixing the red, green and blue channels together while your printer combines cyan, magenta, yellow and black ink to create fewer colours. If you boost the saturation of a photo to create more vibrant colours, you might make weaker colours look stronger, but you'll over-saturate the more vibrant colours and make them

unprintable. You also risk making skin tones look too orange. You can make selective colour adjustments to a photo using the Vibrance slider. This selectively boosts the saturation of weaker colours without over-saturating stronger ones. Vibrance also leaves skin tones alone.

Vibrance is biased towards boosting typical landscape colours such as blues and greens. If you need to boost the saturation of other colours then you need the services of the HSL panel and its colour-specific sliders.



1 Adjust Vibrance

Open the starting image in Camera Raw. Our portrait is packed full of colours. Experiment by dragging Saturation up to +50. The paint specks look more vibrant, but the skin looks too orange. Reset Saturation to 0. Drag Vibrance to +50. The paint and glasses look more saturated, while the skin looks less orange.



2 Make selective adjustments

Some of the skin tones in the shadows look too orange, so drop Vibrance to 0. For greater control over saturation, click the HSL/Grayscale panel icon. Click the Saturation tab. Drag the Purples slider up to +34 to give her glasses more impact. Tease out green blobs of paint by dragging the Greens slider up to +47.



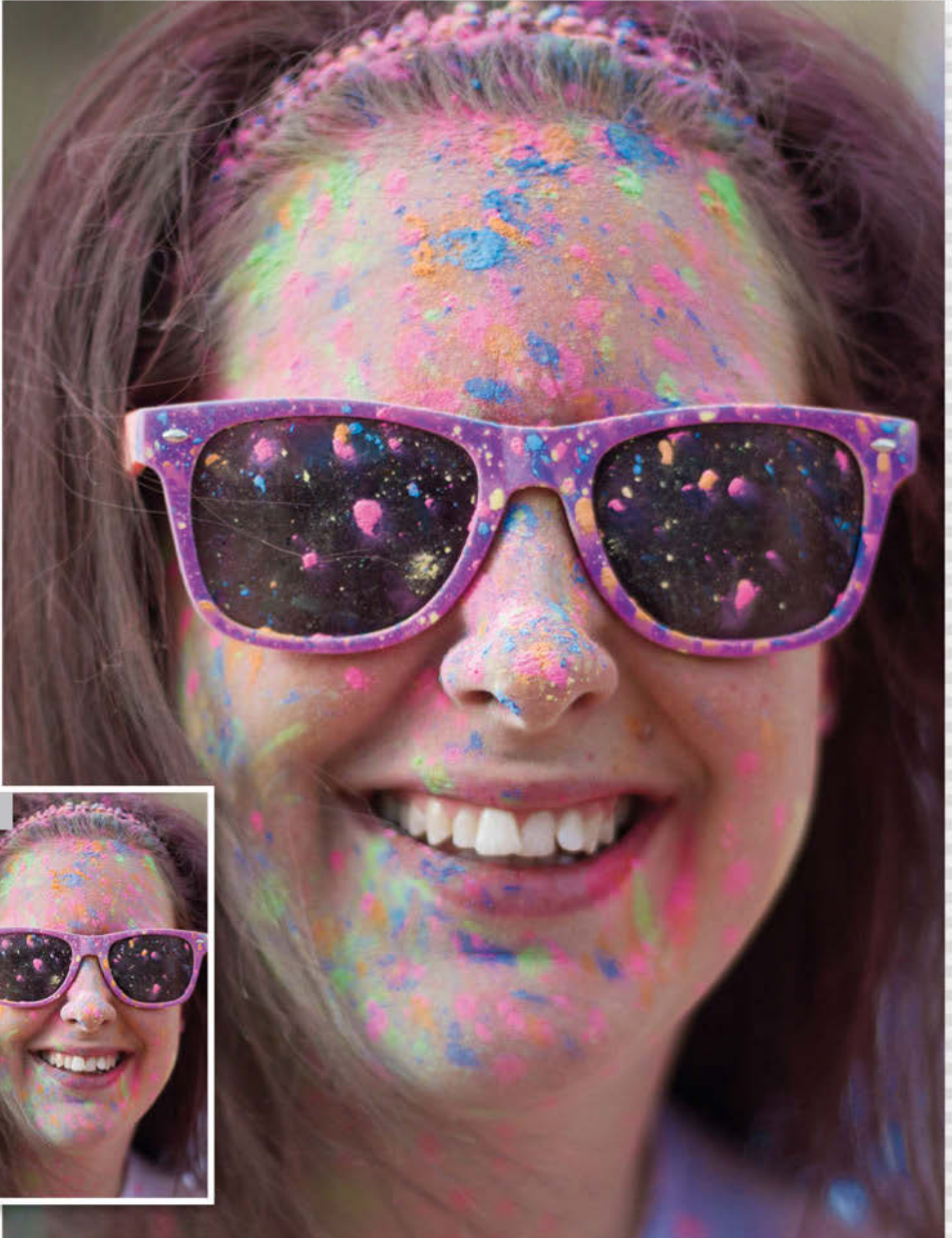
3 Tweak the skin tones

Boost the Blues slider to +44 to make the blue paint stand out more effectively. To contrast the colourful paint specks with the subject's skin, drop Oranges down to -21. This also creates more natural-looking skin tones, and stops the shadows from looking too orange.



4 Adjust the Hue

To make colours stand out even more, click the Hue tab and set the Blues Hue to -23. This creates a colder blue that contrasts with the warm skin. Drag the Purples slider to -52. This makes the glasses look more blue, so the warmer paint specks are more noticeable.



BEFORE



Enhance colours in portraits

Use the Vibrance slider to enhance weaker colours in a portrait without over-saturating the skin tones

When you shoot a JPEG your camera will apply colour presets directly to the image. This can make your photographs look too vibrant, or they may look rather drab depending on the preset that you assigned using the camera's menu options. Settings such as Portrait are good for producing natural-looking skin tones, whereas a Vivid mode might make skin tones look too orange. By shooting in the raw format you can process your images in Camera Raw and get the colours looking just the way you want. This gives you the power to improve on disappointing results produced by in-camera presets. After removing colour casts using tools such as White Balance presets or the White Balance tool, you can adjust the saturation of the photo's colours to give them more impact, and draw the eye to specific objects in the frame.

The Saturation slider in the Basic panel enables you to boost the colour saturation by an equal amount. This provides a quick way of creating a more vividly coloured image, but it can over-saturate skin tones. Some colours (such as blues) don't print very accurately if they are too saturated, so we'll show you how to make selective colour saturation boosts.

BEFORE



1 Open the image

In Bridge, right click the PMZ54_vibrance thumbnail and choose Open in Camera Raw from the context-sensitive pop-up menu. Or choose File>Open in Photoshop and browse to the shot. Choose Open. The digital negative format image will open in Camera Raw.



2 Boost the Saturation

The woman's face looks a little bright, so drag Highlights to -41 to reveal more detail. By boosting the Saturation slider to +43 you can reveal more blues in the railings and enhance the greens of the plants, but this causes the subjects' skin tones to look too warm and orange.



3 Boost the Vibrance

Drop the Saturation slider down to 0 for the moment. By increasing the value of the Vibrance slider you can selectively boost the saturation of the weaker blues and greens while leaving the skin tones as they are. This avoids producing a print featuring an orange-looking couple.



4 Tweak the Saturation

Due to its bias towards altering natural colours such as blues and greens, the Vibrance slider is great for enhancing the colour in typical landscape photos. After boosting Vibrance, tweak the global colour strength by increasing Saturation to a more subtle +14. ■

Get the cross-processed look

Target and tweak the tone curves of individual colour channels to get a creative cross-processed effect

A photograph's colours are created by mixing the red, green and blue colour channels together. By targeting and tweaking points on a particular channel's tone curve you can produce dramatic changes in hue. This provides an effective way to create a cross-processed look. The term cross-processing refers to a developing technique used in chemical darkrooms. It involved deliberately developing print negatives using chemicals that were designed for use with slide film (or visa versa). The use of incorrect chemicals resulted in a shift in colour hue, leading to stylised and eye-catching images. Cross-processed blues often took on a green hue, for example, while a shot's shadows might feature a hint of magenta.

This developing process (or at least the look that the traditional cross-processing technique produced) is still popular, especially with fine art, fashion and stock photographers who want their work to stand out from the crowd. In the days of the traditional darkroom, the results could be a bit hit or miss, so you had to experiment to try to get the desired shifts in colour and tone. By tweaking the tone curve of individual colour channels, you can replicate almost any chemical combination you might desire.

BEFORE



1 Choose a channel

Open PMZ02_cross process in Camera Raw. Click the Tone Curve panel and then click the Point Curve tab. By default you'll see a curve that controls the RGB channels at the same time. To target a specific colour channel, click the Channel drop-down menu and choose Blue.



2 Tint the blues

Click the middle of the diagonal curve to place a control point. The point's Input and Output values should read 128 each. Click the cursor on the lower half of the curve where that the Input is 64. Drag the point upwards to create an output value of 14. This adds a cyan tint.



3 Adjust the reds

Set the drop-down menu to Red. Place a point at an Input and Output value of 128. This central anchor point allows you to target tones on one side of the point without altering tones on the other. Drag another point to an Input of 192 and an Output of 175.



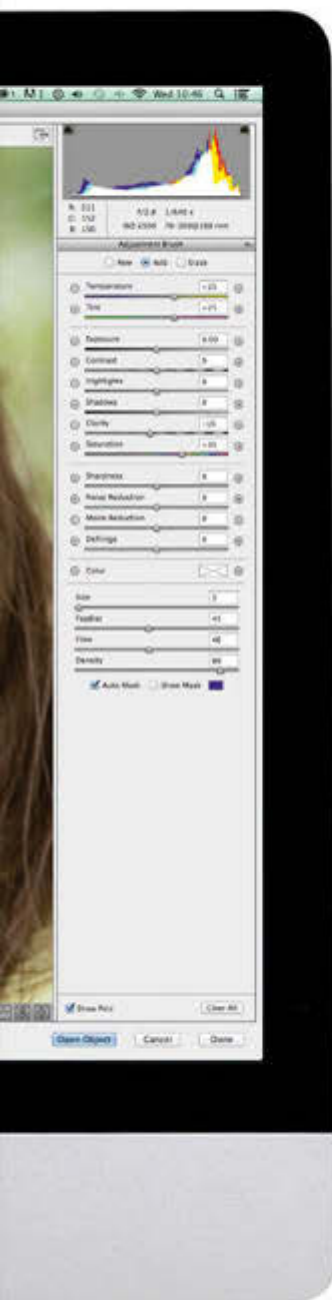
4 Tint the shadows

On the Green curve, set an anchor point at an Input and Output of 128. Place a new point at an Input of 63 and drag it to a lower Output of 53. This adds a magenta hue to the photo's shadows. You now have cross-processed cyan blues and magenta tinted shadows. ■



Selective adjustments

Discover how to isolate particular parts of a photo so you can make localised image adjustments



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The power of the Adjustment Brush

Lighten or darken specific regions of an image using the Adjustment Brush tool in Camera Raw

When shooting in mixed lighting conditions it can be a challenge to capture an even exposure that features detail throughout the entire tonal range. In the location featured in our starting image we were faced with a bright sky and a patch of hill that was being directly illuminated by the sun. The rest of the hilly location was plunged into shadow. By setting the camera to its manual metering mode, we were able to capture detail in the sunlit section of the hill. It makes sense to prioritise capturing highlight detail because it's harder to recover than under-exposed shadows. We used a narrow aperture setting so we could shoot in daylight with a slow shutter speed and turn the moving water into foam. This narrow aperture also contributed towards our under-exposed shadows.

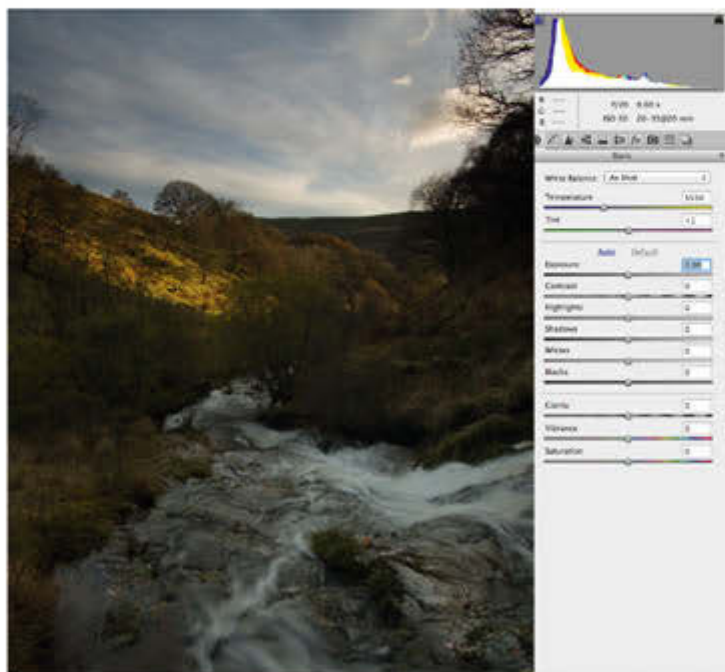
Despite carefully setting up the camera, the unprocessed image looks disappointing. It lacks strong highlights and the shadows are hiding the main point of interest – the foamy water. However, because this is a raw file we can process it in Camera Raw and reveal colour and detail where it's required. As the name 'digital negative' suggests, our DNG format image needs to be processed in the digital darkroom before it can look its best.

In traditional film darkrooms, photographers could use dodge and burn tools to vary the amount of light hitting the photo paper. This enabled them to make selective tonal adjustments to specific parts of high-contrast scenes. We'll perform a similar technique using the versatile Camera Raw Adjustment Brush tool.

BEFORE

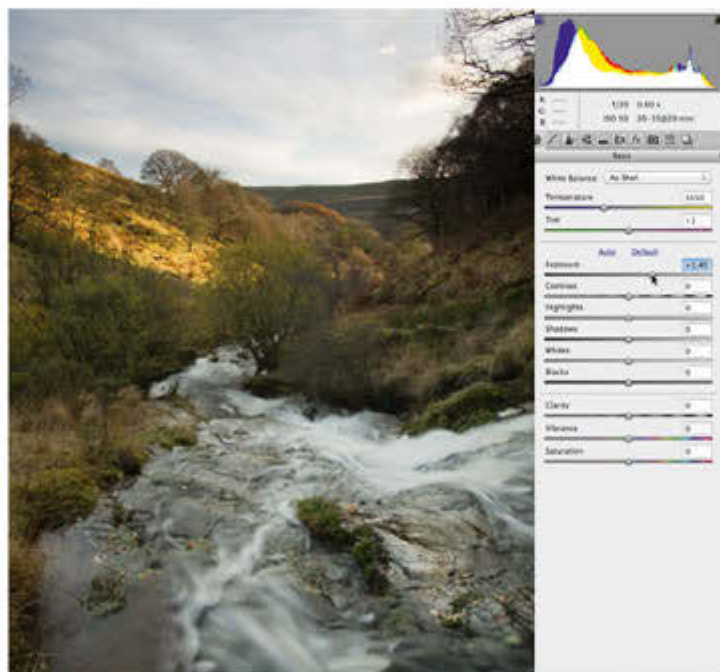






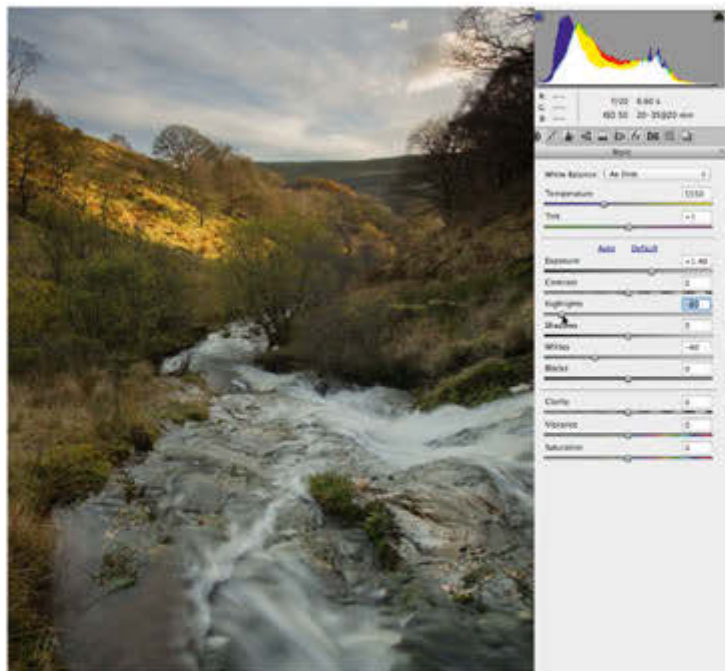
1 Open the image

Open PMZ28_adjustment in Camera Raw by double clicking the thumbnail in Adobe Bridge. Before making selective brush-based adjustments to specific tonal regions, it makes sense to use the tone-targeting powers of the various sliders in the Basic panel to fix as many problems as we can, because these enable you to alter large areas quickly and easily, and the image needs quite a bit of work.



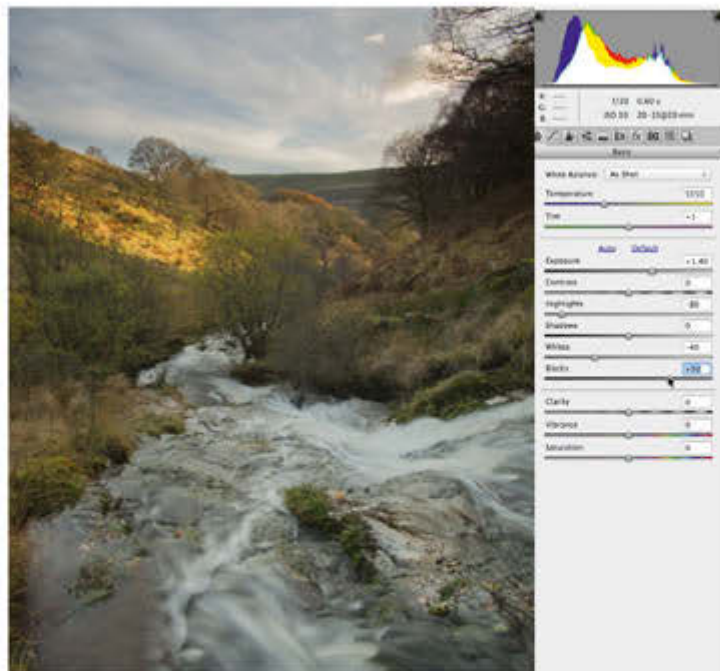
2 Boost the exposure

Normally, we might start processing a picture by fixing any colour balance problems, but because the image is under-exposed we can't clearly see the colours in the shaded areas. So with this type of under-exposed image, we'll start by making a global tonal adjustment and drag the Exposure slider right to +1.40. This operation reveals more shadow detail, but it blows out detail in the highlights of the sky and the sunlit section on the hill.



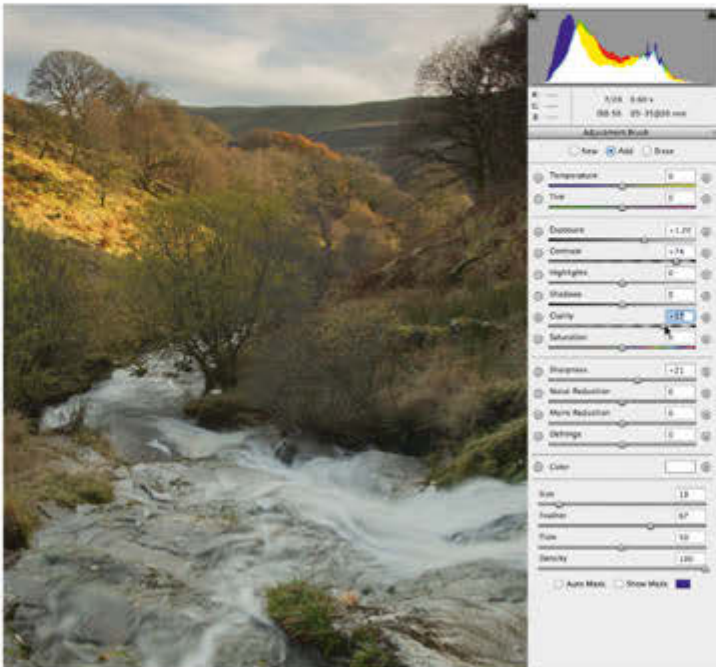
3 Recover the highlights

We can see from the healthy spread of tones in the Histogram that the brightened highlights aren't technically clipped, but some of the colour and details are now missing from the sky. By dragging the Highlights slider left to -80 we can claw back missing detail and colour in the sky without darkening the newly revealed shadow details in the landscape. Pull Whites down to -40 to gently darken the brightest pixels in the picture.



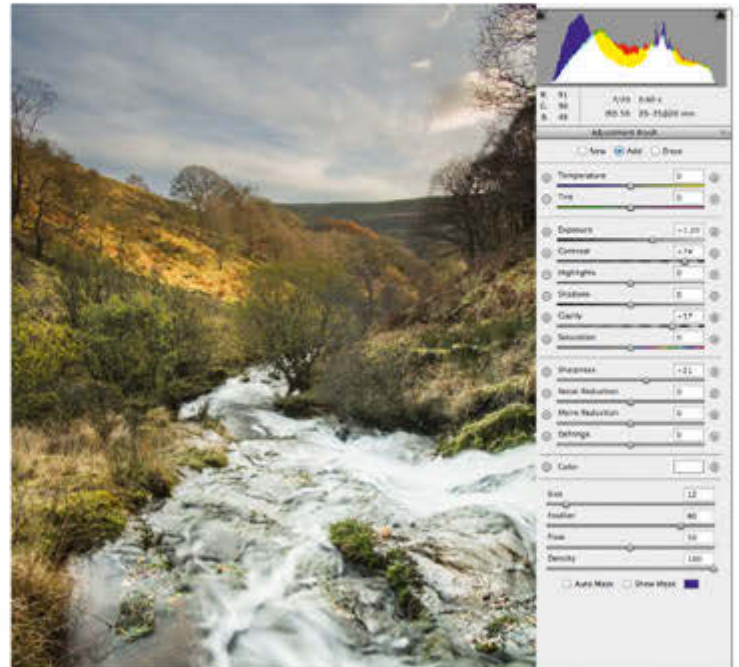
4 Lighten the shadows

Lighten the darkest shadows by dragging Blacks to +50. Press Q to cycle between the before-and-after versions of the raw file. Our selective tone-tweaking sliders have improved the shot as best they can. We can see more detail in the shadows and we've persevered most of the highlights. However, the sky and the water lack contrast and look flat. We can use the Adjustment Brush to selectively adjust the contrast in these areas.



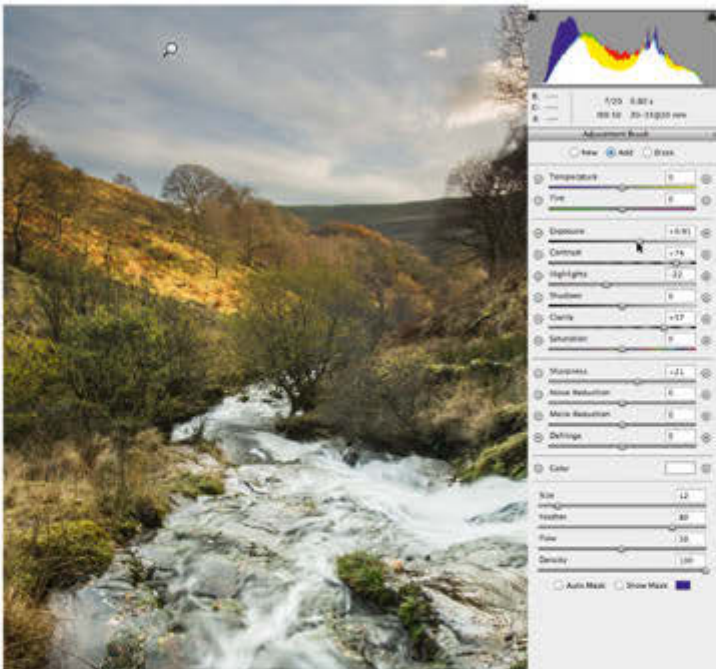
5 Set up the adjustment properties

Press Q until only the edited version of the image is visible. Grab the Adjustment Brush from the toolbar (or press K to summon it). The Adjustment Brush panel will appear. Click to place a pin on the shaded hill. We're going to selectively lighten the shaded areas, so set the Exposure slider to +1.20. To produce a stronger contrast, set Contrast to +74 and Clarity to +57. Push Sharpness to +21.



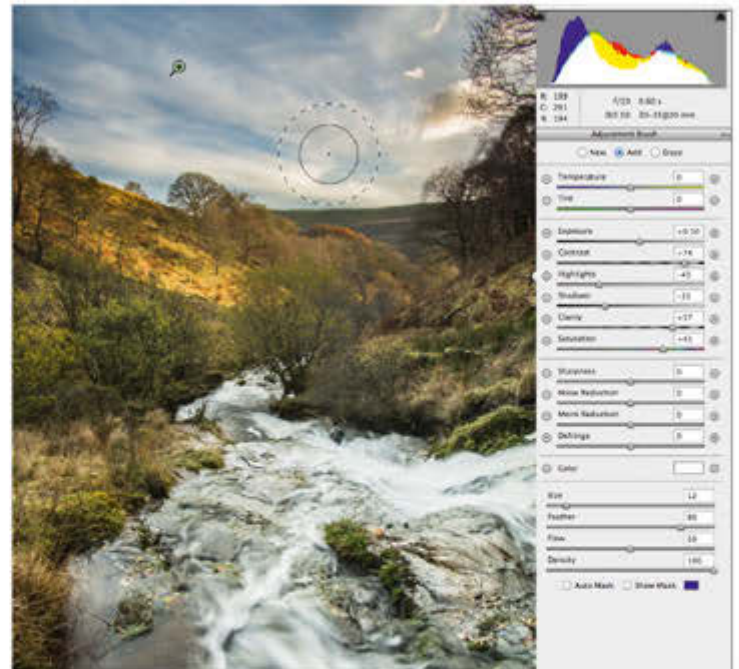
6 Reveal more shadow detail

To control the spread of the localised brush-based adjustment, set Size to 12. Create a soft edge to help blend the edited areas with their un-edited neighbours by choosing a Feather of 80. Paint over the shaded hill and river to lighten these areas and boost their contrast. Be careful not to paint on the sunlit section of hill or you'll over-expose it. We now have a more evenly balanced exposure, and we can see more detail in the shadows.



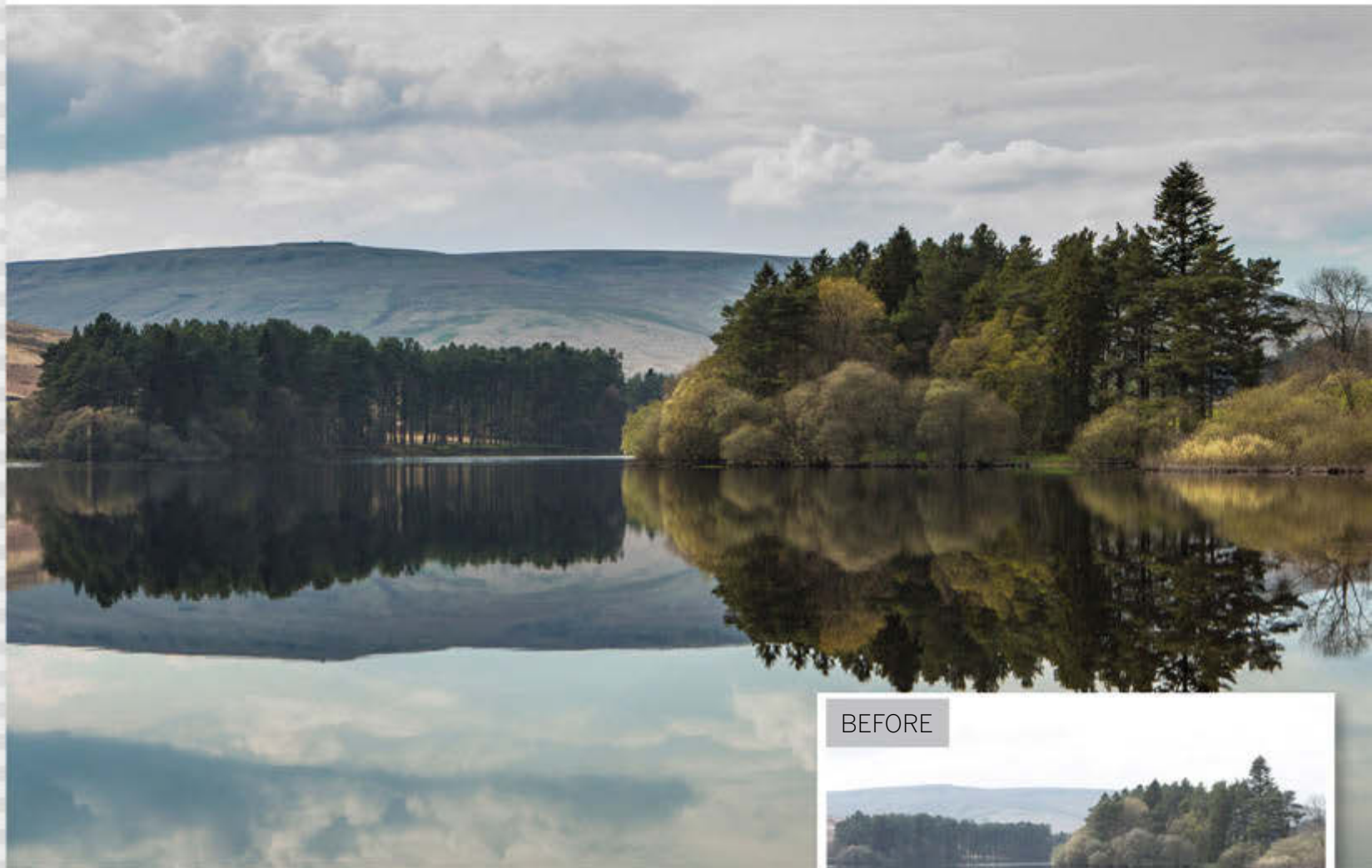
7 Non-destructive editing

The Adjustment Brush is a non-destructive tool, so we can click a particular pin to access its slider settings and fine-tune them. The water is a little too bright, so drag Exposure down to +0.95 and reduce Highlights to -22. To bring out fine textures in the sky, click the New button (or press N). Click to place a pin on the sky. At this stage it will use the previous slider settings, so we'll need to change them to more suitable ones.



8 Enhance the sky

Set the new pin's Exposure to +0.50, Contrast to +0.74 and Highlights to -43. To darken some of the greyer clouds set Shadows to -35. Tease out more fine midtone texture and detail in the clouds by setting Clarity to +57. Give the weak blues more impact by setting Saturation to +45. You can use the same Size settings to cover large areas quickly. Paint over the sky to selectively reveal more texture and detail. ■

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Enhance plain-looking skies

Fix dull-looking over-exposed skies by applying a graduated tonal adjustment using the Graduated Filter tool



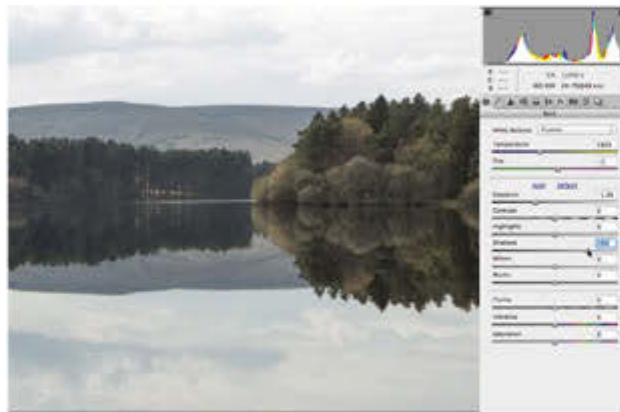
On a bright day your camera can struggle to capture detail in contrasting lighting conditions. You could pop a neutral density filter over the lens to limit the amount of light hitting the sensor at the top of the frame. This physical filter enables you to set the camera's aperture and shutter speed to reveal darker details in the lower section of the frame without over-exposing the brighter sky detail near the top. If you don't have an ND filter, you can recreate the effects of one in Camera raw, courtesy of the Graduated Filter tool. In many shots you'll see an overcast sky that appears to contain little detail. If you drag the Exposure

to the left you'll notice that there's more cloud texture and colour hidden in the raw file's sky. However, this global exposure adjustment will plunge your correctly exposed landscape into darkness. The Graduated Filter tool enables you to drop the exposure value at the top of the frame by a desired f-stop or two. It gradually reduces the strength of the exposure adjustment so that the brighter areas in the sky blend seamlessly with the correctly exposed landscape. As you can apply multiple Graduated Filters to the image, you can also selectively adjust blown-out sky reflections in the lower part of the frame, as you'll see in our walkthrough.



1 Warm it up

Open PMZ_graduated. Before making graduated adjustments to reveal sky detail, let's get the over-exposed darker terrain looking its best using the Basic panel sliders. The graduated sky adjustments will then blend with the correctly exposed land. Drag Temperature to 5800.



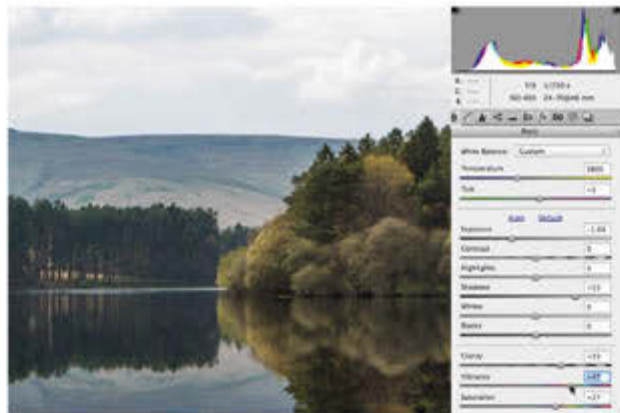
2 Make exposure adjustments

Drag the Exposure slider to -1.60. By dropping the Exposure, you reveal a hint of sky detail, but the land is still looking too dark. Reveal more detail in the land by dragging the Shadows slider to +53. The trees now look better exposed.



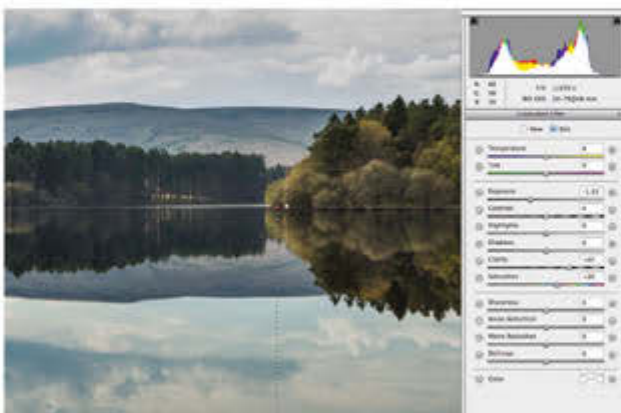
3 Adjust the Clarity

To make the darker trees stand out more effectively against the lighter mountain, drag Clarity right to +33. This gentle midtone contrast adjustment makes the trees slightly darker so they pop out in contrast. It also gives the fine cloud textures more impact.



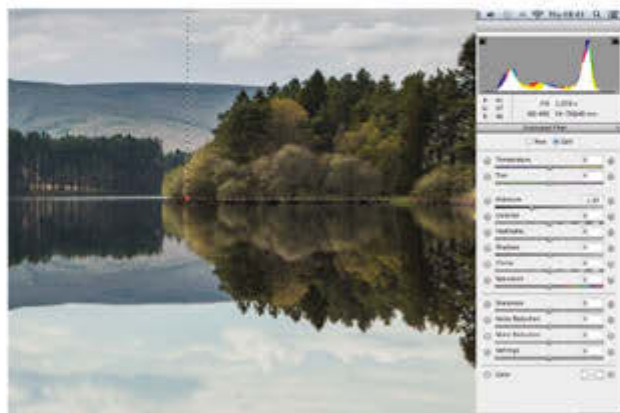
4 Boost the colours

Our starting image's colours look drab, but there are colours hiding in the raw file that we can reveal. Boost Vibrance up to +47 to enhance the natural blues and greens. Increase Saturation to +27 to perform a global colour boost. The stronger saturation reveals extra textures.



5 Draw a gradient

Grab the Graduated Filter from the toolbar. In the Graduated Filter panel, set Exposure to -1.30. Drag from the top of the frame down to the horizon to draw a gradient. The exposure adjustment will be strongest near the top green line, and will gradually drop to 0 by the red line.



6 Fix the reflection

Set Clarity to 40 to tease out cloud detail. Click the New button in the Graduated Filter panel. Draw a second gradient from the bottom of the frame to the horizon. Set Exposure to -1.5 to get a balanced reflection. Boost Saturation to +20 to reveal more cloud colour.

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BEFORE



Mask areas for selective edits

Discover how to make selective adjustments more accurately using Adjustment Brush masks

There are many ways to make selective adjustments in Camera Raw. Sliders such as Shadow or Highlight enable you to target and tweak similar tones in every part of the image at once. The Vibrance slider performs selective colour enhancements. It can boost the saturation of weaker colours without over-saturating stronger ones (and avoid causing skin tones to become too warm and orange). The White Balance tool finds and removes colour casts with a click. All these tools have their own unique selective adjustment role, and working together they can dramatically improve the colours and tones in a raw file.

The Adjustment Brush is arguably the most versatile selective adjustment tool in Camera Raw. Thank to the Adjustment Brush panel, you can change the properties that

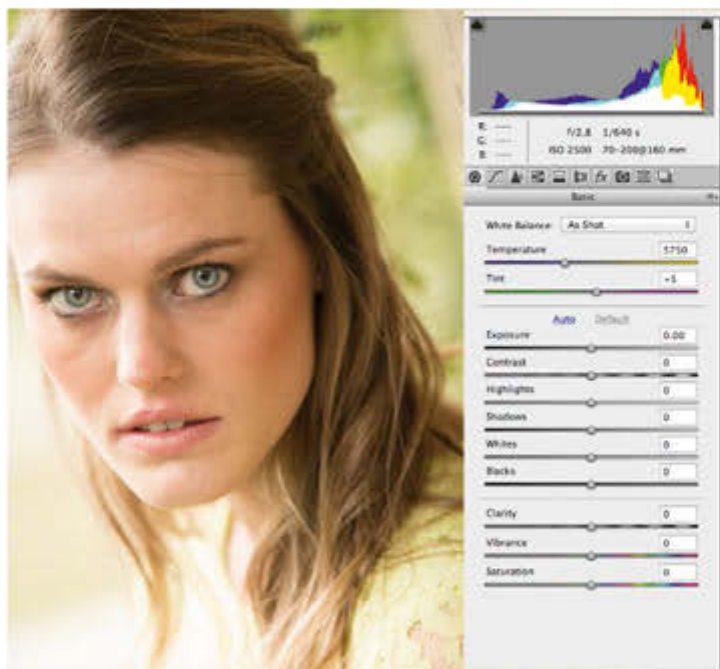
it selectively adjusts. We'll show you how to use a negative Clarity value to create a smoother skin complexion, and then use the same tool to enhance lips. Unlike sliders such as Shadow or Highlights, the Adjustment Brush can be modified to edit other properties, such as the colours, tones and clarity of specific regions.

To help restrict the Adjustment Brush's influence to particular pixels, you can use masking. Masks appear as a colour overlay to help you identify precisely which areas are being adjusted. You can then use the mask to fine-tune the spread of the adjustment. Thanks to the Auto Mask option, you can stop the Adjustment Brush tip from straying over a contrasting edge, which enables you to quickly smooth skin without accidentally blurring important facial features such as an eye.



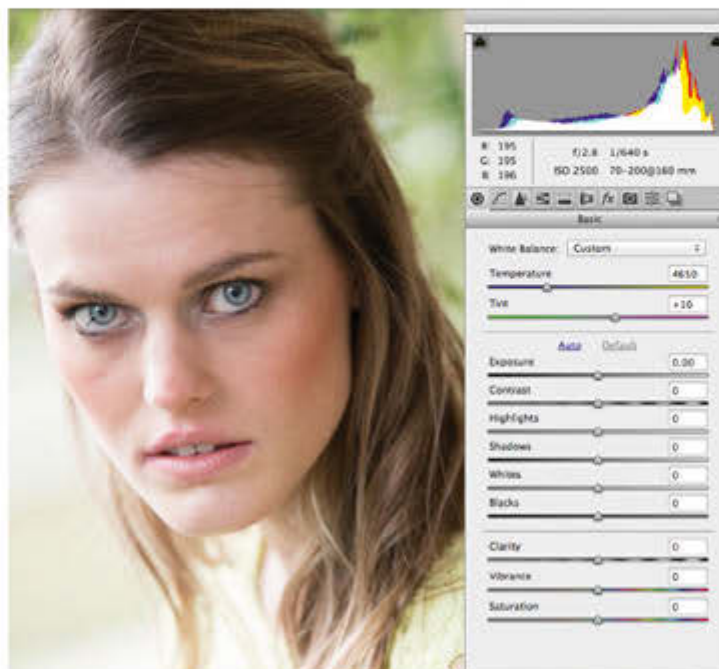
Teach yourself Raw in Photoshop

SELECTIVE ADJUSTMENTS



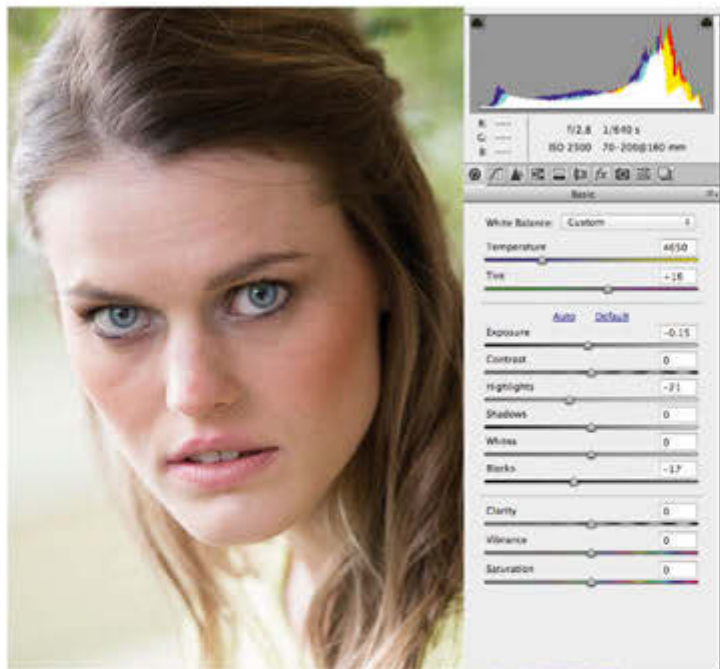
1 Analyse the problems

Open PMZ5_masking in Camera Raw. Before we selectively smooth the model's skin and whiten her eyes with the Adjustment Brush, let's make some more global adjustments to correct overall colour and tone. The photo has a warm, greenish tint that doesn't flatter the subject. From the peaking graph at the right of the Histogram, we can see that the highlights are too bright. The image lacks strong shadows on the left of the graph.



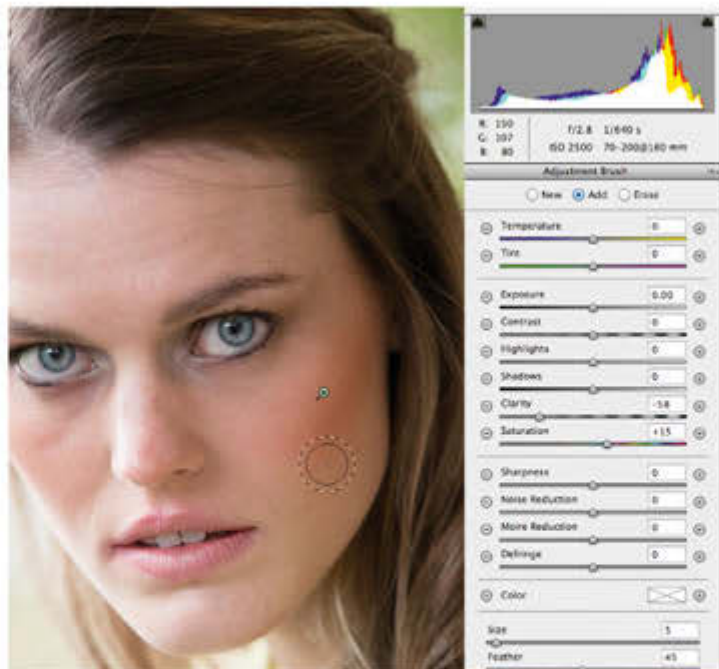
2 Correct the colours

Before adjusting any tone-related sliders, let's remove the slight colour cast and create healthier looking skin tones. Grab the White Balance tool. Click an area that should be white (such as the whites of the model's eyes). This will adjust the Temperature and Tint sliders to create a neutral white in the sampled area, creating tint-free colours in the rest of the image at the same time.



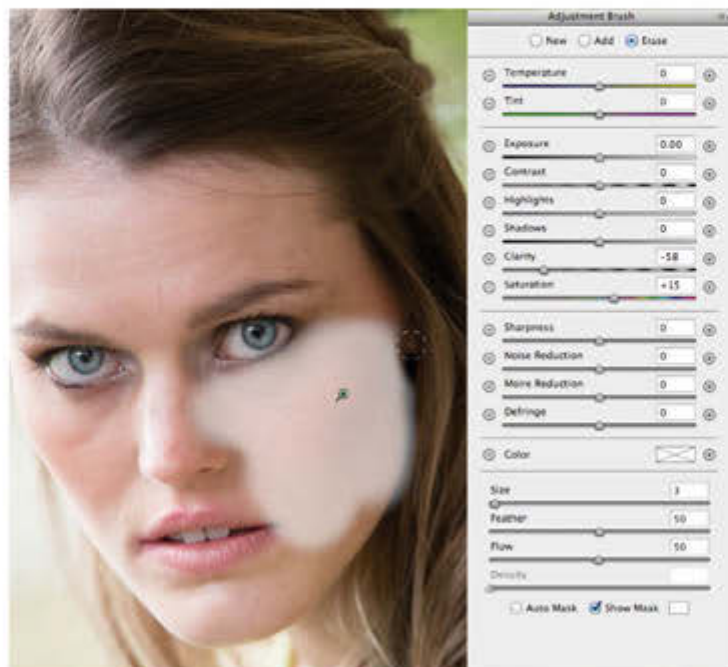
3 Correct the exposure

As the photo is a little over-exposed, drop the Exposure slider to -0.15. Reduce Highlights to -21. For more contrast, drop the Blacks slider to -17. The Histogram now shows a wider spread of tones. If you click the Before and After view you'll see that the colours in the edited version now look more natural compared with the unprocessed original. We're now ready to make more selective adjustments to improve the subject's complexion.



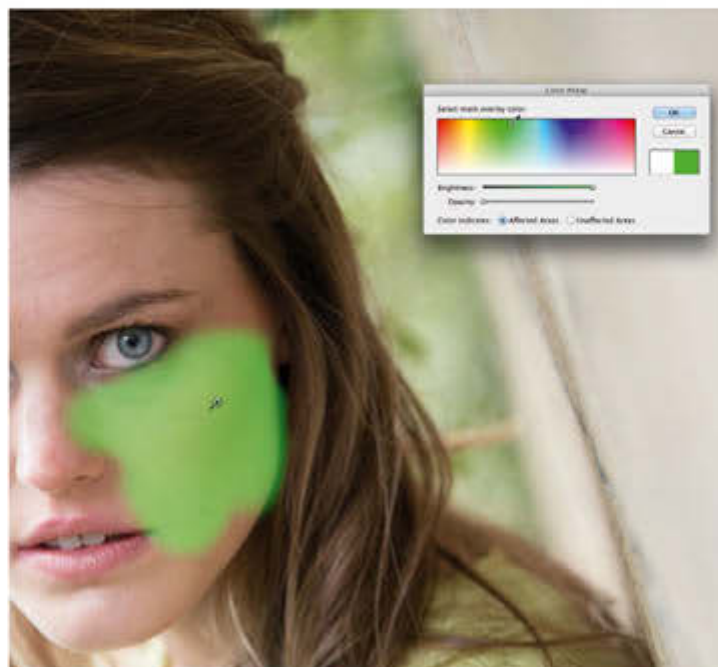
4 Set up the Adjustment Brush

Go back to Single View. Zoom in to 33% for a closer look at the subject's skin. Grab the Adjustment Brush (or press K to summon it). In the Adjustment Brush panel, set Clarity to -58. Boost Saturation to +15 to add more colour to the model's cheeks. Untick the Auto Mask box. Click to place a pin on her cheek. Paint over the cheek to smooth the pores. Avoid painting over important details such as the eyes.



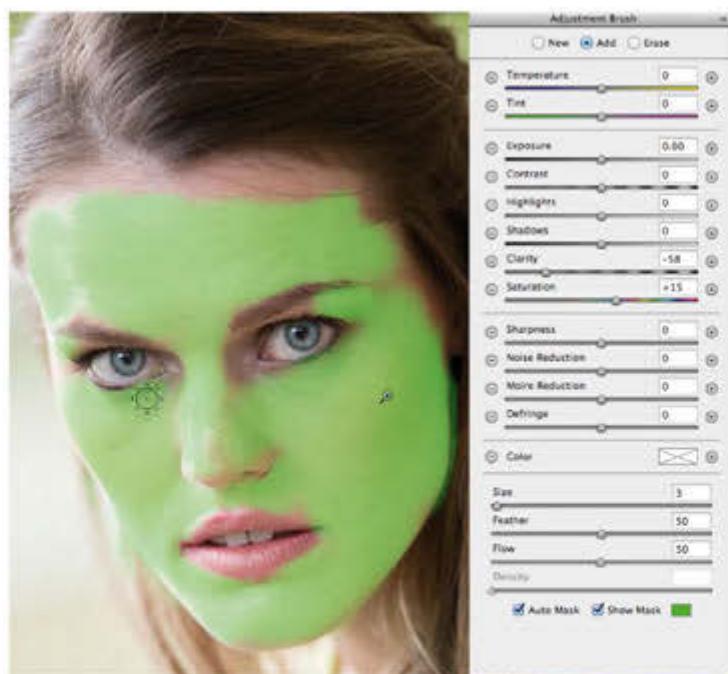
5 Modify the mask

In the Adjustment Brush panel, tick the Show Mask box. A translucent white patch will appear, indicating which areas you have adjusted. This white mask has a soft edge, so it could easily stray into other areas such as the model's hair, which you want to remain as sharp as possible. Tick the Erase button and paint over areas that you don't want to smooth. The mask will change shape to show the newly adjusted areas.



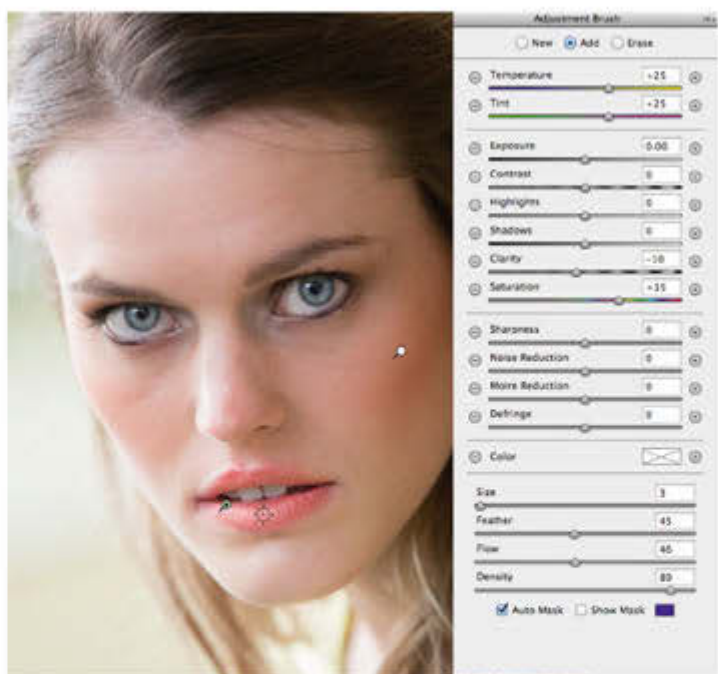
6 Change the mask colour

The default white mask colour can be hard to spot if you're working on white areas such as eyes. Click the Color Swatch next to Show Mask. Choose a contrasting colour from the Color Picker. We chose this luminous green. Click OK. You can change the mask Opacity to make it more noticeable, but it helps to see some of the original details through the mask, so leave this Opacity slider at its default setting.



7 Use Auto Mask

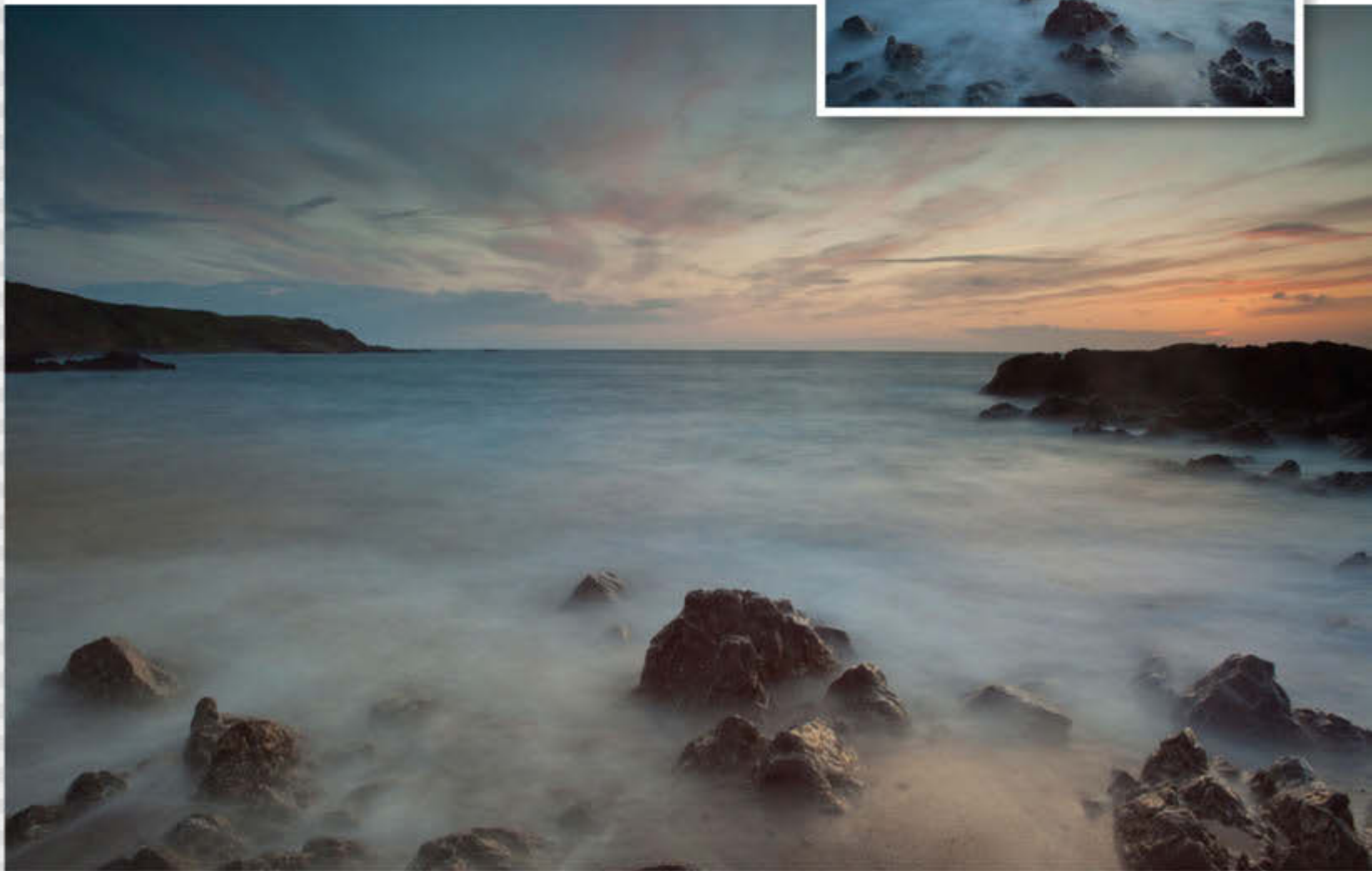
To make the Adjustment Brush's mask more sensitive to changes in contrast, tick the Auto Mask box. Click the pin you placed earlier. Continue painting over the skin. Click the Add button at the top of the Adjustment Brush panel. As you paint, the brush will recognise contrasting edge details such as the lips and eyes and avoid softening them. The more intelligent mask will have a sharper edge to it.



8 Enhance the lips

To see the smoothing affect of the Adjustment Brush on the skin, untick Show Mask. Click the New button. Boost the Saturation slider to +35. Push Temperature and Tint to a warmer +25. Set Clarity to -10. Paint on the model's lips to give them more impact. The Auto Mask option will stop adjacent areas such as the model's teeth from being altered by this selective adjustment. ■

BEFORE



Selective white balance editing

Warm up or cool down the colours in specific areas of a photo to remove localised colour casts

Normally, white balance problems are easy to fix. If a shot suffers from a cold blue (or warm orange) colour cast, then you can drag the Basic panel's Temperature slider to counteract the tint by warming up the image or cooling it down until the colours look more natural. If the scene is cloudy or sunny then you can experiment with various White Balance presets to remove blue or orange colour casts.

However, in our supplied starting image we have a scene featuring contrasting colours and lighting conditions. The orange sunset contrasts with the cold blue sea. Due to the

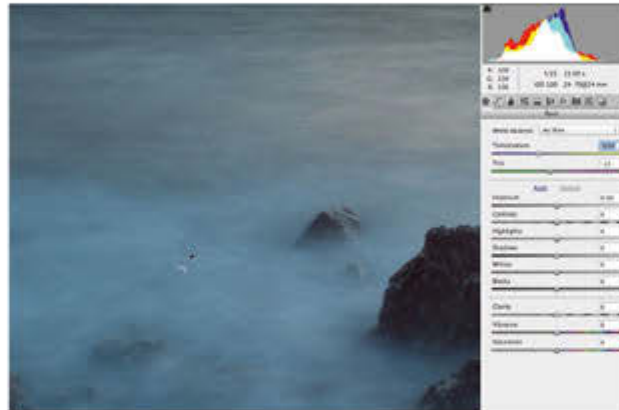
mix of clear sky and clouds, some of the ocean's colours are neutral, and don't suffer from the blue colour cast that's noticeable in the shaded foreground. If we warm up the photo's colour temperature to remove the foreground blues, then the correct colours in the more distant part of the ocean will look too warm. In this walkthrough we'll show you how to use the Color Sampler tool to help identify areas of the image that are suffering from colour casts, and which areas that are tint-free. You'll then know which areas to selectively warm up and cool down. To make the selective white balance adjustments we'll use the Graduated and Radial Filters.

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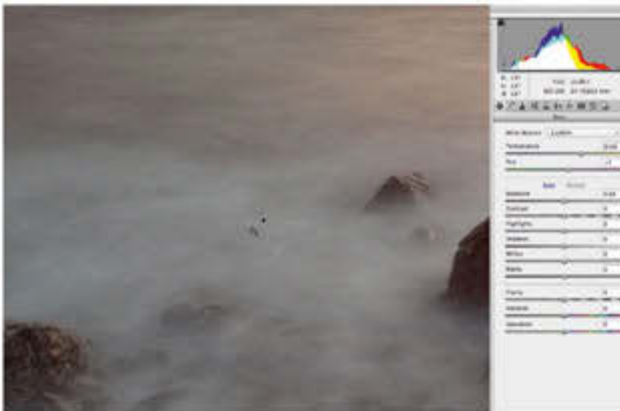
1 Take a neutral sample

Open PMZ93_selectiveWB. Grab the Color Sampler tool from the toolbar. Click the cursor on a section of sea that looks close to a neutral white. We've sampled an area that has RGB values of 152, 157 and 154. If the area was totally tint-free then the RGB values would be identical.



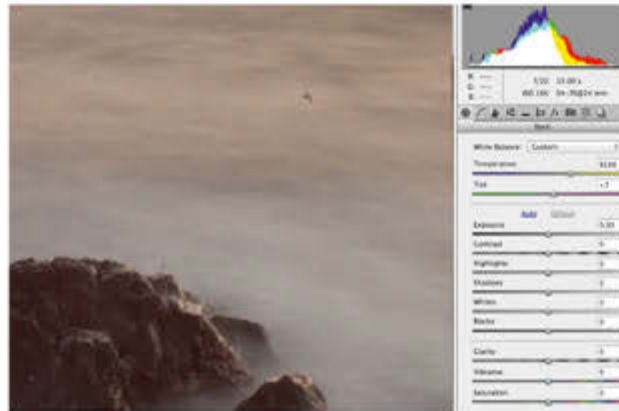
2 Sample a colder spot

Click to sample a colder blue part of the ocean in the foreground. This creates sample number 2. In our example we've sampled an area with RGB values of 107, 131 and 153. The numbers are much farther apart, indicating that this second sampled area has a colour cast.



3 Adjust the temperature

Grab the White Balance tool. Click the colder sample 2 icon. This tool will sample the RGB values, work out that there's a colour cast and then adjust the values so that they are equal. This creates a tint-free colour in similar shaded sections of the sea.



4 Analyse the RGB values

Although sample 2's RGB values are now balanced and tint-free, sample 1's values are wider apart at 175, 157, and 139. This indicates the presence of a colour cast in our previously neutral area. We need to selectively warm up the cold foreground without making the ocean look too orange.



5 Draw a linear gradient

Set the White Balance drop-down menu to As Shot. Grab the Graduated Filter. Drag a diagonal line from the bottom left towards the middle of the frame. Drag the green start point to create a narrower gradient. Set Temperature to +59 and Tint to +16.



6 Add a radial gradient

To selectively colour correct smaller sections such as the cold blue patch of sea on the right, grab the Radial Filter. In the Radial Filter panel, tick the Inside button. Draw an ellipse. Push Feather to 68. Tweak the Temperature values to create a neutral colour inside the ellipse.

Focus attention

Use the Radial filter to reduce the impact of detail around the edges of your subjects to make them stand out

In Camera Raw you can deliberately darken (or lighten) the edges of your images. By adding vignette effects you can reduce the impact of details around the edges of the frame and draw attention to the central subject. If your main subject is framed in the centre of the photo, then you can use the Effects panel's Post Crop Vignette sliders to lighten or darken the image's edges. If the subject is off-centre then the Radial Filter can be used to produce a similar but off-set vignette

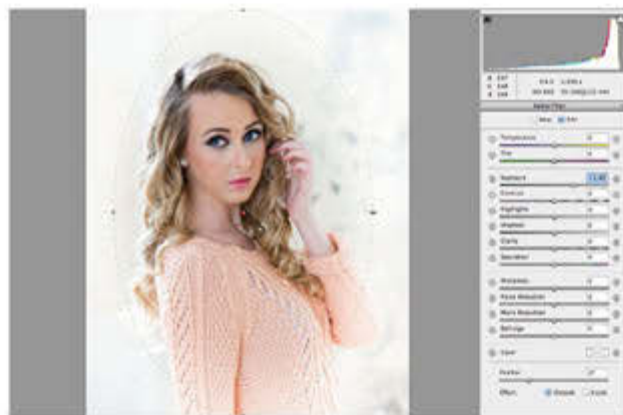
effect. Unlike the Post Crop Vignette tool, the Radial Filter enables you to edit extra properties such as colour temperature, so you can create cooler edges that contrast with the subject's warmer palette.

In this tutorial we'll demonstrate how to use the Radial Filter to brighten the edges in a way that complements the photo's sunny location, creating an abstract high-key background that helps to focus attention on the correctly exposed woman in the lower part of the frame.



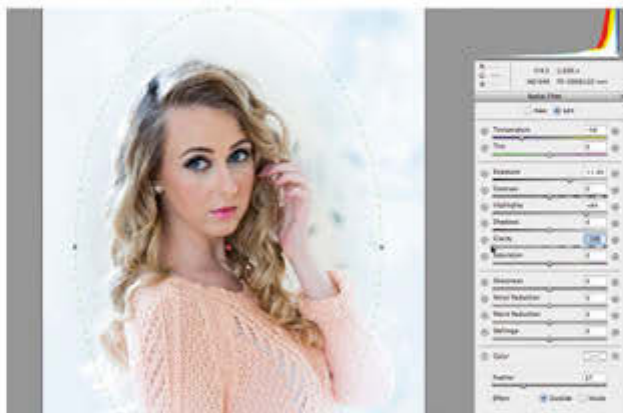
1 Correct the colour and tone

Open PMZ30_radial. Set the White Balance drop-down menu to Auto to quickly cool down the orange colour cast and create more natural-looking skin tones. The shot is a little lacking in shadows so set Exposure to -30, Contrast to +27 and Blacks to -28. Grab the Radial Filter.



2 Draw an ellipse

In the Radial Filter panel, set Exposure to +1.40 to lighten the edges. To make the Radial Filter alter details outside the ellipse, tick the Outside button at the bottom of the panel. Draw an elliptical shape that centres on the woman. Drag the filter's control points to refine its shape.



3 Modify the effect

To create cool vignetted edges that contrast with the warm subject, drop the Temperature slider to -50. Push Highlights up to +64 to help over-expose the highlights in the vignetted area. To reduce distracting detail outside the Radial Filter's ellipse, drop the Clarity slider to -100.



4 Fine-tune the shape and size

If you decide to use the Crop tool to remove some of the empty space around the subject, you'll need to reposition and resize the Radial Filter to suit the new composition. The alternative Post Crop Vignette will automatically reapply the vignette to the recomposed image. ■



BEFORE







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Create stunning black-and-white pictures using the Grayscale Mix panel to lighten or darken specific colours

132 Split-tone your mono images
Add separate washes of colour to the highlights and shadows of a monochrome conversion to replicate the split-tone effect

134 Reveal fine detail using Clarity
Discover how to boost midtone contrast and give distant details in landscape images more impact

136 Create a 32-bit HDR image
Combine three differently exposed photos of the same scene to create a composite with a high dynamic range

140 Replicate the infrared effect
Create stunning pictures by mimicking the distinctive colours and tones produced by shooting on infrared film



Convert your photos to mono

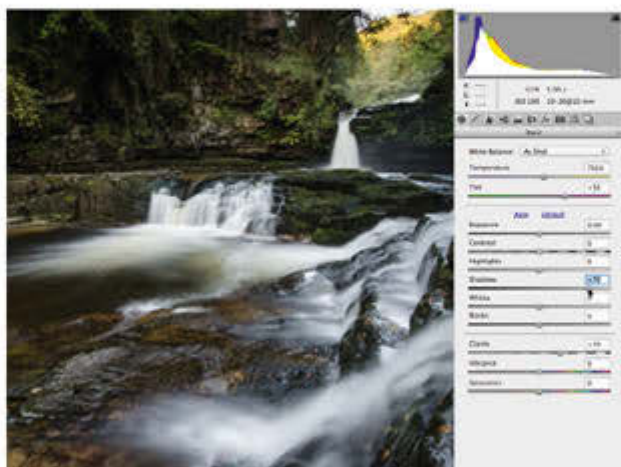
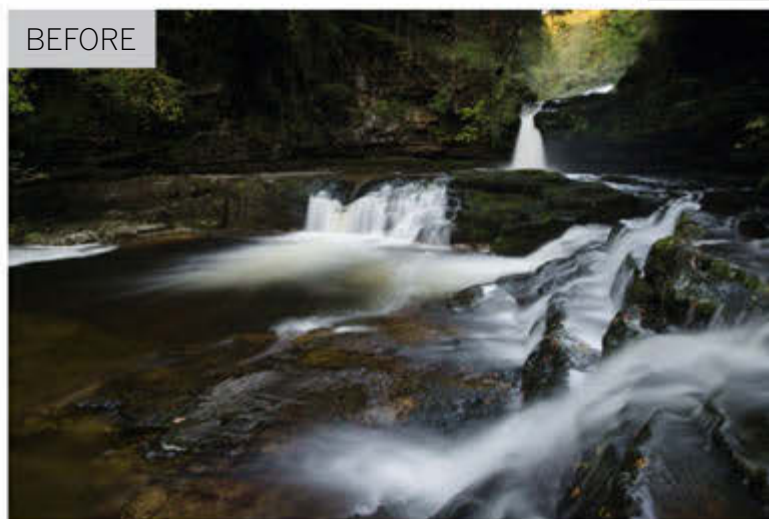
Create stunning black-and-white pictures using the Grayscale Mix panel to lighten or darken specific colours

In pre-digital days photographers would shoot with black-and-white film. By placing coloured filters over the lens they could lighten or darken greyscale tones in the captured image based on the original colours. For example, a red filter would darken blue skies, enabling white clouds to stand out more clearly in contrast.

You could create a black-and-white version of a scene in Camera Raw by dragging the Basic panel's Saturation slider down to 0. Although this technique would remove all of the colour information, you'd probably end up with an indistinct wash of greyscale tones. Camera Raw enables you to mimic the traditional colour filter technique so that you can lighten or darken specific colours.

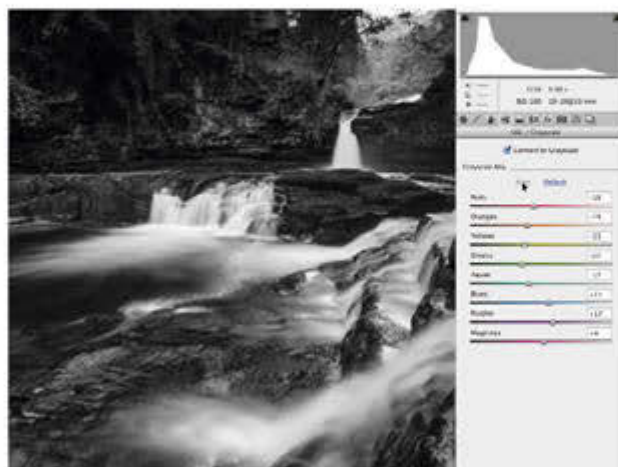
We'll demonstrate how to use the Convert to Grayscale panel to remove the distracting colour information, and then adjust the colour sliders to lighten or darken specific regions in the scene. This technique enables you to produce mono conversions that draw attention to specific shapes and textures in a photo.

BEFORE



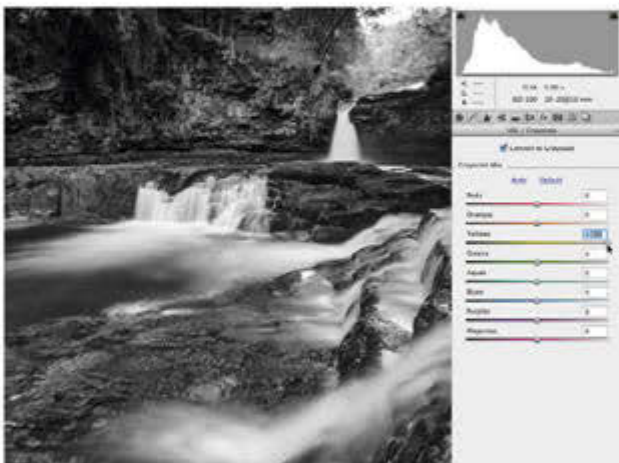
1 Tweak the tones

Before converting an image to monochrome you'll need to create a well-exposed shot and tease out the colour information so that you can use it to lighten or darken areas later on. Open PMZ48_mono. Drag Shadows to +70. Set Clarity to +30 for more midtone contrast.



2 Convert to grayscale

Boost the Vibrance slider to +35 to reveal more colours in the shadows. Click the HSL/Grayscale panel and tick the Convert to Grayscale box. This gives us a black-and-white version of the correctly exposed image. Click Auto to make the colour sliders lighten or darken particular areas.



3 Lighten the yellows

Click default to reset the sliders to 0. We can manually adjust the sliders to lighten specify areas and create more contrast where it's needed. There's lots of vegetation in the scene, and this tends to contain yellow. Drag the Yellow slider right to lighten any vegetation and reveal its texture.



4 Target an adjustment

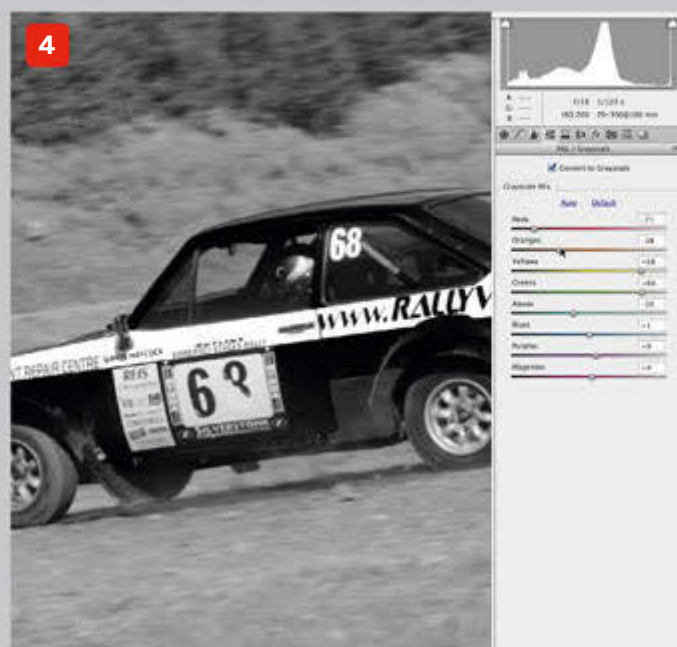
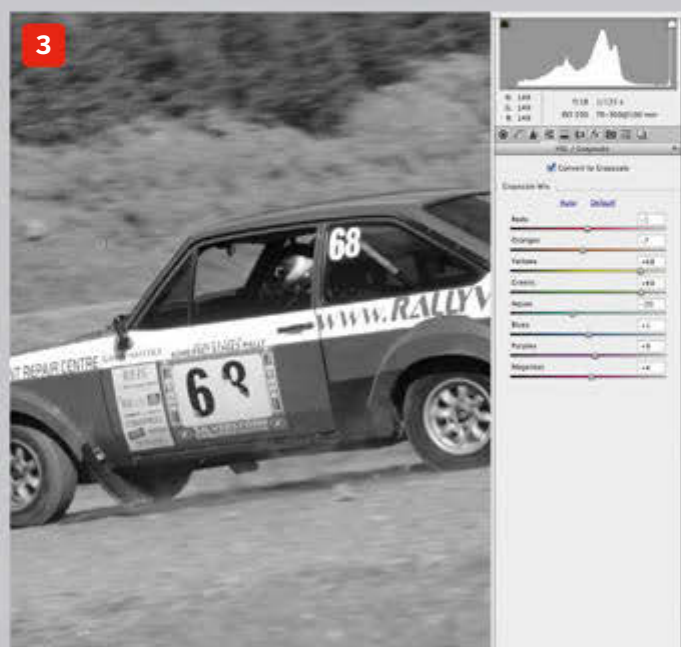
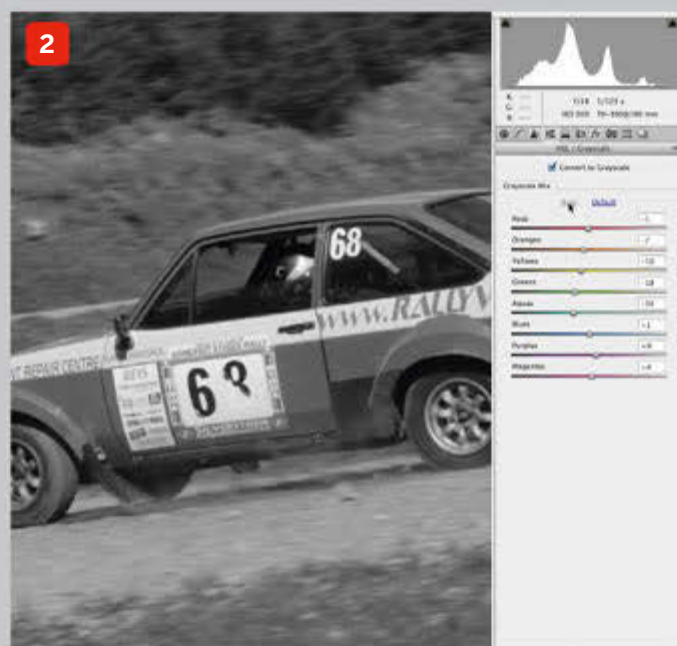
If you're not sure what colour to tweak, grab the Targeted Adjustment tool. Click the water and drag upwards to lighten any colours in the sampled area. This brightens the Blues and helps make the water in the mono conversion stand out in contrast against the darker rocks.



Want to know more? NOW TRY THIS...

By experimenting with the Convert to Grayscale panel's coloured sliders you can produce a range of different looking monochrome prints from a single shot. This enables you to draw attention to various areas in the image and decide which look you prefer. These sliders work best with shots that have lots of different colours to play with, such as the colourful car in the image below. Here the Grayscale Mix sliders are set to the

default of 0, so the conversion lacks contrast [1]. By clicking Auto, the results aren't much different [2]. By manually increasing the Yellows to +68 and the Greens to +69 you can lighten the vegetation and make the darker car stand out more effectively [3]. You can create an even more striking contrast by selectively darkening the car's paintwork [4]. To do so, set the Oranges slider to -38 and the Reds to -71. ■



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Split-tone your images

Add separate washes of colour to the highlights and shadows of a monochrome conversion to replicate the split-tone effect

A traditional way of creating an eye-catching scene is to remove the photograph's original colour information. This helps the eye focus on tonally contrasting shapes and textures in the scene instead of being distracted by colour. You can enhance your monochrome conversions by gently reintroducing fine washes of colour to the greyscale image's shadows and highlights. A hint of colour can make a monochrome shot look more interesting. The split-toning effect also helps change the

mood evoked by the image. In the split-toned image on the right, the goat's shadows feature a cool blue tint while the lighter highlights of the animal's fur are tinted with a warmer wash of sepia. These contrasting cool and warm colours help tease out the different textures in the image.

Before adding a split-toned look to your image, you'll need to make sure that there's enough contrast between the shadows and highlights to add colours to, so we'll kick off by adjusting the image using the Basic panel.



1 Correct the exposure

Open PMZ58_split tone. The unprocessed image is very under-exposed, so boost the Exposure slider to 2.25 to reveal more detail and create a healthier spread of tones in the Histogram. Boost Highlights to +84 and Whites to +42. Push Clarity to +55 to reveal fine hair detail.



2 Convert to monochrome

Click the HSL/Grayscale panel. Tick the Convert to Grayscale box. Click Auto to let Camera Raw produce a mono conversion based on the colours in the original shot. To create more contrast between the goat's darker fur and its white markings, drag the Orange slider left to -46.



3 Tint the tones

Crop the image using a 1:1 ratio. Click the Split Toning panel's tab. Boost the saturation of the Shadows and Highlights to 20. By default both the shadows and highlights will be tinted red. Set the Highlights Hue to 60 for a wash of sepia.



4 Fine-tune the results

Set the Shadows Hue to a cooler 224 to create a contrasting wash of blue. Set Balance to -52 to tint a wider range of shadows and midtones. You can then play with different saturation values until you achieve the desired split-tone look. Finish off by adding a post-crop vignette. ■



BEFORE



Reveal fine detail using Clarity

Discover how to boost midtone contrast and give distant details in landscape images more impact

When shooting a landscape, water particles in the air can cause details to become diffused. Closer objects will have a stronger contrast because there's less moisture between them and your camera, while more distant objects may lack contrast. The most distant hills in our starting image nearly disappear into the clouds due to their washed-out midtones. If we boost the Camera Raw Contrast slider to try to darken the distant hills then we'd risk making the already darker foreground shadows under-exposed while blowing out the brighter highlights in the sky.

You can target and tweak the washed-out midtones in the distant mountains without altering the photo's darker shadows and brighter highlights, courtesy of the Clarity slider. This enables us to selectively increase the midtone contrast and counteract the effects of the diffuse lighting in the most distant parts of the background. As a bonus, the Clarity slider also increases the midtone contrast in other areas, which helps fine textures stand out more effectively in our starting image's rocks and water. You can also make brush-based Clarity adjustments to target areas with more precision.

BEFORE



1 Adjust the exposure

Open PMZ99_clarity in Camera Raw. We can see from the histogram that the image lacks strong highlight information, so it's under-exposed. Drag Exposure to +0.40 to brighten everything up. Boost the Highlights to +89 to selectively brighten them.



2 Increase Clarity

Our histogram now has tones stretching from the shadows on the left to the highlights on the right. This indicates that the picture is now better exposed. By increasing the Clarity slider to +80, we increase midtone contrast and make fine textures and details pop out.



3 Select the Adjustment Brush
The increased Clarity setting creates more contrast between the white foam and the green sea, but the distant hills still look a bit washed out. To make a localised Clarity adjustment that gives the hills more impact, grab the Adjustment Brush from the Camera Raw toolbar.



4 Apply selective adjustments
In the Adjustment Brush panel, set Exposure to -0.15, Contrast to +54 and Clarity to +100. Click to place a pin on the distant hill and paint to selectively boost the midtone contrast. Click the Zoom tool to exit the Adjustment Brush panel. Boost Vibrance to +45. ■

Create a 32-bit HDR image

Combine three differently exposed photos of the same scene to create a composite with a high dynamic range

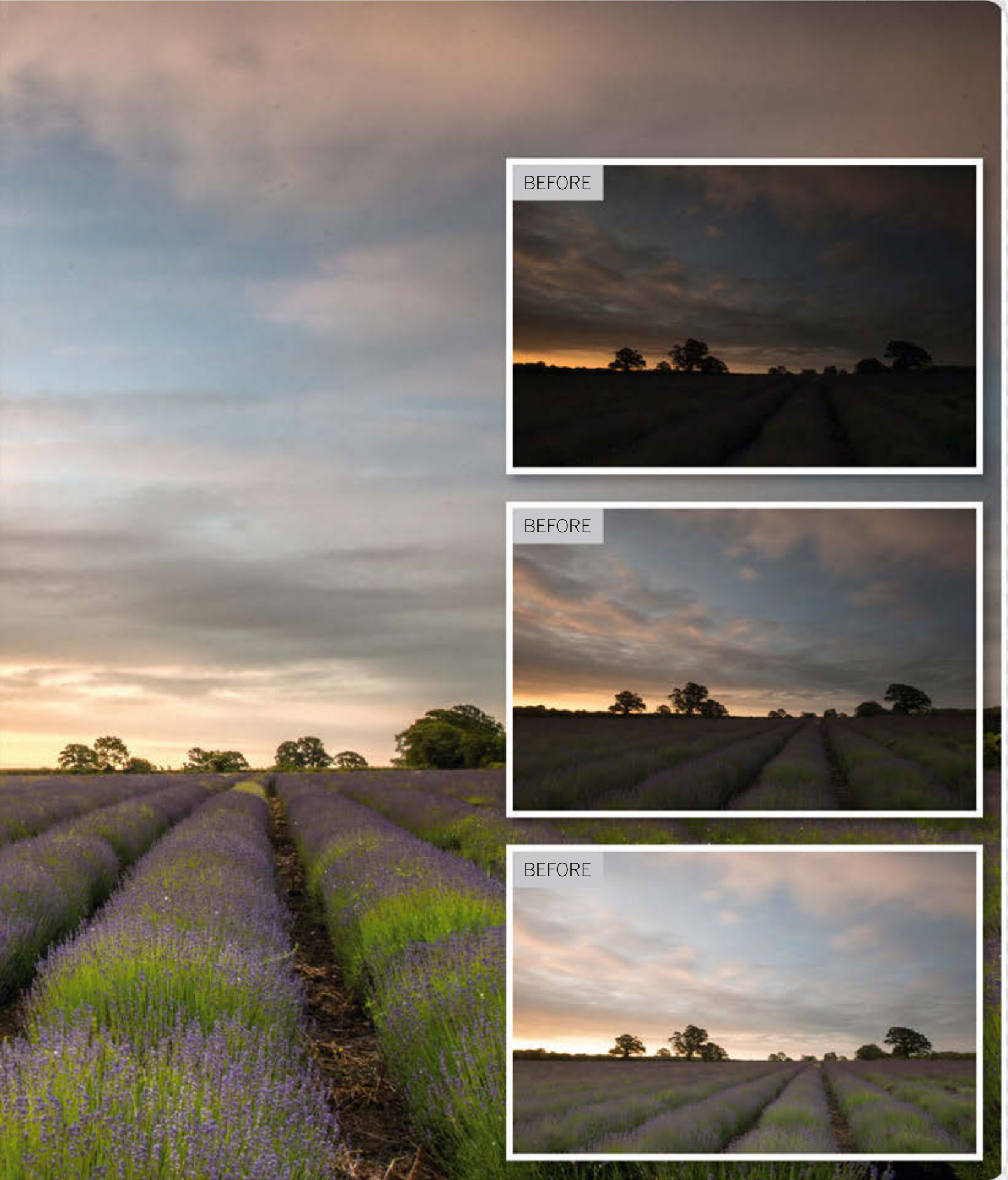
Your camera can be set to reveal detail in shaded areas, but this can cause lighter sections of the scene to become over-exposed and lack detail. If you meter to capture highlight detail, then the shadows may become clipped and print out as pure black. You could try revealing missing tonal detail using the Basic panel's Shadows and Highlights sliders, but there may still not be enough information available in the darkest or lightest parts of the image. Alternatively, you could try processing a raw file twice to create versions of the scene that show detail in the shadows and the highlights. You could then blend the correctly exposed areas of the two together using layer masks.

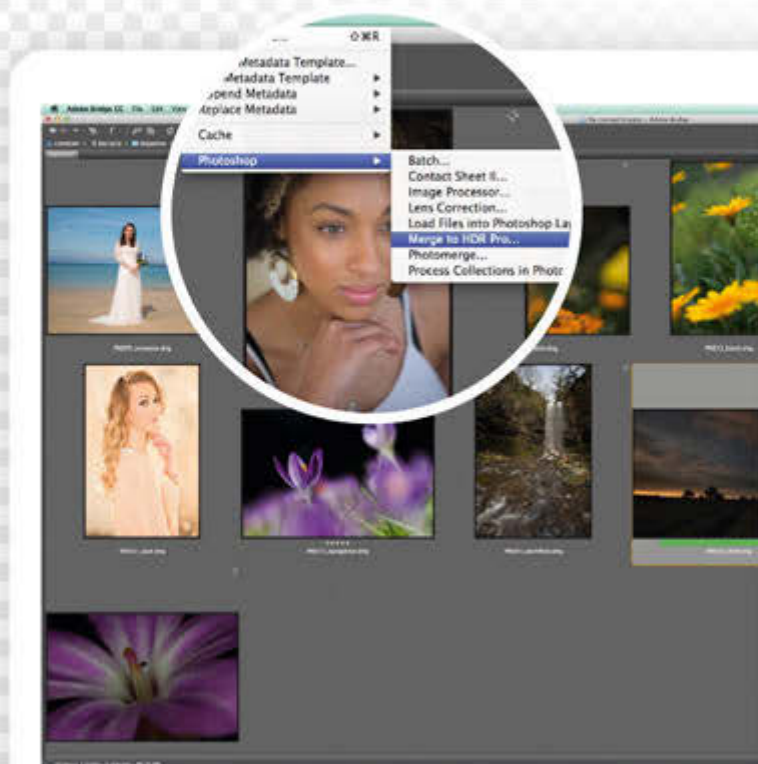
However, to capture the widest range of tones you can set your camera to shoot three bracketed exposures. One shot

will capture shadow detail (although its highlights will be over-exposed), one will meter for the midtones, and the third will look under-exposed, but will contain all the location's highlight information. These separate exposures will ensure that you have access to detail throughout a scene's tonal range.

In this walkthrough we'll show you how to combine your bracketed raw exposures together to create a single composite image with a high dynamic range. This means that more tonal detail will be visible in the composite shot's shadows and highlights. We'll show you a workflow that enables you to convert your raw source files into a 32-bit composite that can be processed in Camera Raw, after a detour through Photoshop's Merge to HDR Pro command.

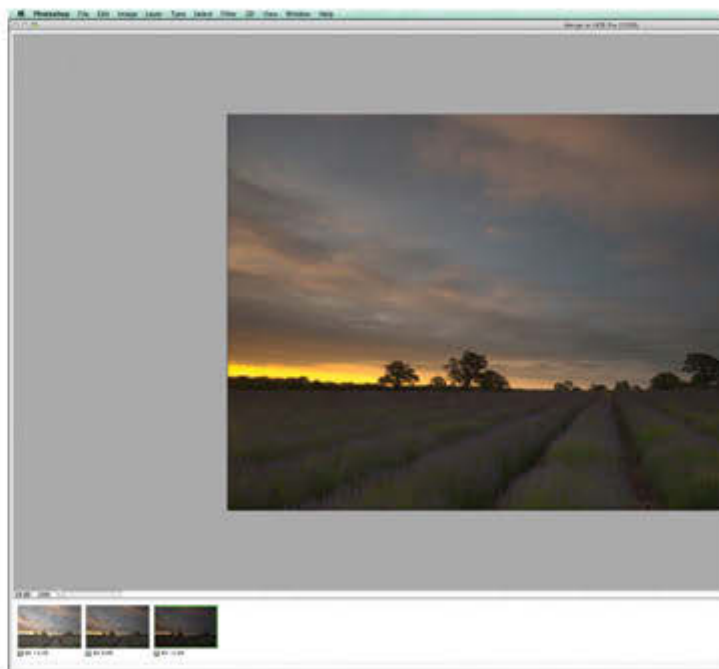






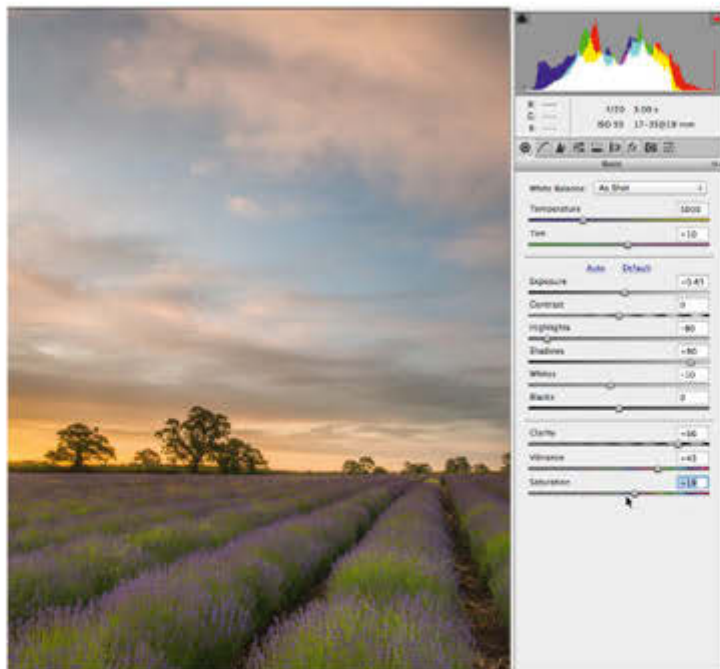
1 Merge to HDR Pro

Browse to the three bracketed starting images in Bridge. Shift click to select the three thumbnails. Go to the menu bar and choose Tools>Photoshop>Merge to HDR Pro. This will open the three images in Photoshop and place them into the same document to align their contents. By aligning them you'll be able to merge the correctly exposed details from each shot. The images will then open in the Merge to HDR Pro window.



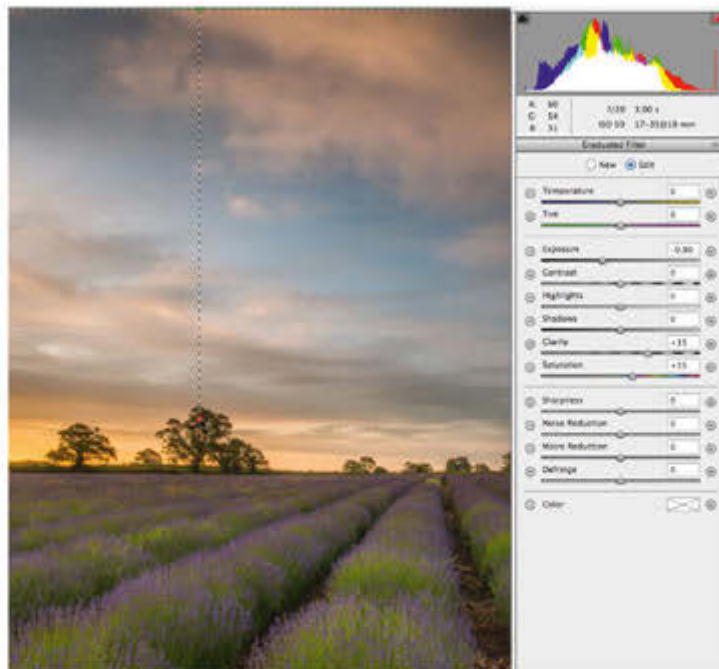
2 Remove the ghosts

Your bracketed shots will be visible at the bottom of the Merge to HDR Pro workspace. If your scene features moving objects such as passing people or wind-blown trees, then you might notice blurred areas in the composite HDR image. To avoid the blur, tick the Remove ghosts box. A green box will appear around the least blurred shot. You can click to choose another image if you prefer.



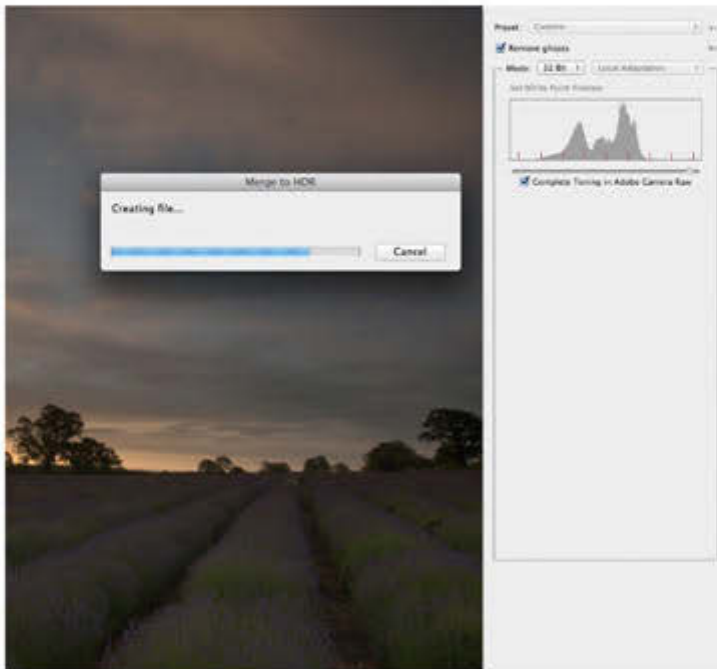
3 Set the bit depth

By default the mode will be set to 16 bit. You could use the Merge to HDR Pro command's sliders to mix the best bits from each shot together, but because the source images are raw files we want to squeeze more detail from them and do as much work as we can in Camera Raw. To do so, set the Mode drop-down menu to 32-Bit. By default the Complete Toning in Camera Raw box will be ticked. Click the Tone in ACR button.



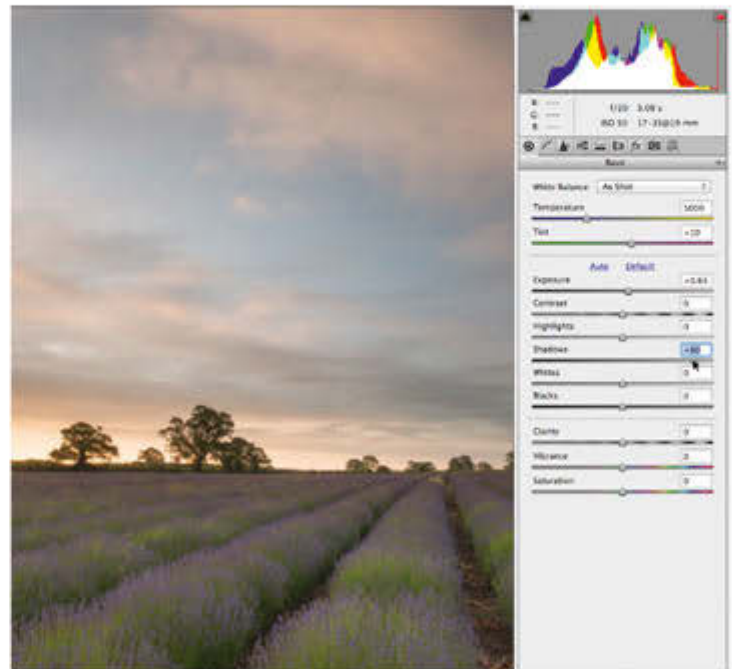
4 Adjust the exposure

This procedure will merge the bracketed exposures together into a 32-bit HDR file and open the composite image in the Camera Raw filter. You're now ready to fine-tune the 32-bit image using the familiar Camera Raw tools and sliders to reveal detail in the shadows, midtones and highlights. Drag the Shadows slider to +80 to reveal more detail in the foreground terrain. Push Exposure up to +0.65.



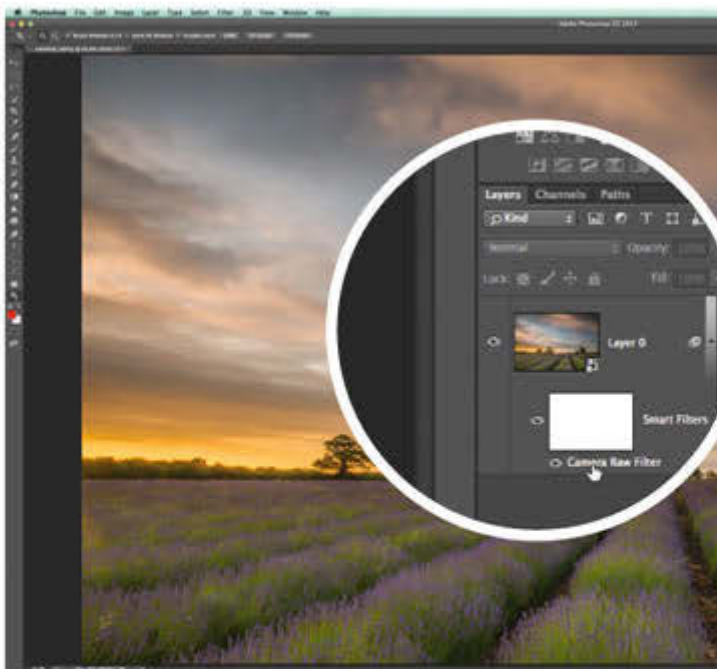
5 Boost the colour and contrast

Press O to activate the highlight clipping warning. The red patches indicate that the sunset's highlights are blown out, so drag Highlights down to -80 to claw back missing colour and detail. Drop Whites to -10 to reduce the highlight clipping even more. Increase Clarity to +66 to make midtone details pop out. Boost the Vibrance slider to +43 and the Saturation to +18 for the strong colours associated with HDR images.



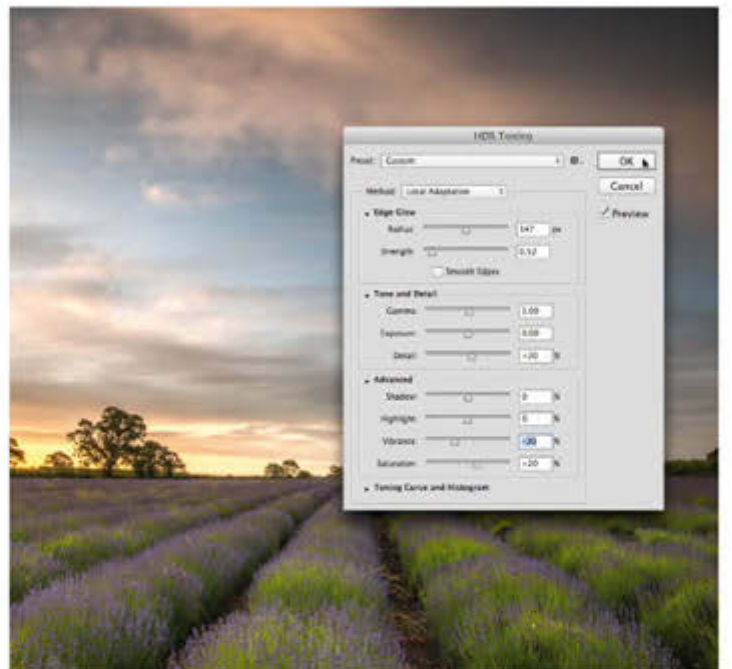
6 Enhance the sky

To reveal even more colour and detail in the lighter sky, grab the Graduated Filter tool from the Camera Raw toolbar. Draw a gradient from the top of the image to the horizon. In the Graduated Filter panel, set the Exposure slider to -0.90. Boost the Clarity slider to tease out more fine cloud texture and detail. Push Saturation up to +15 to enhance the sky colour. Now that you've processed the raw composite, click OK.



7 Open it in Photoshop

This will open the processed 32-bit HDR composite image in Photoshop. In the Layers panel you'll see that the Camera Raw filter settings have been stored as a Smart Filter. Double click the Camera Raw Filter label to fine-tune any of the Camera Raw sliders or tools. You can save the image as a Photoshop file or a TIFF to preserve its 32-bit HDR quality and status. To save a JPEG version, follow the next step.



8 Convert it to 8 bits

The HDR composite is a 32-bit image, so many of Photoshop's menu commands will be unavailable. To make your image more editable in Photoshop, go to the Image menu and click Mode. Tick the 8-Bits/Channel option. Click Merge. 32-bit images contain more luminance information, so you'll need to tone map the image to convert it to 8 bit. Drop the Vibrance slider to -30 to make the colours less garish. Click OK. ■

Recreate the infrared effect

Create stunning pictures by mimicking the distinctive colours and tones produced by shooting on infrared film

The colours that we perceive are produced by different wavelengths of light. At either end of this visible rainbow spectrum are additional wavelengths that our eyes can't see, including infrared light. In theory, digital cameras are capable of capturing infrared colours, but they wouldn't equate to those that we see with the naked eye. To avoid capturing the 'false' infrared wavelength colours, manufacturers build filters into cameras to block the effects of infrared light.

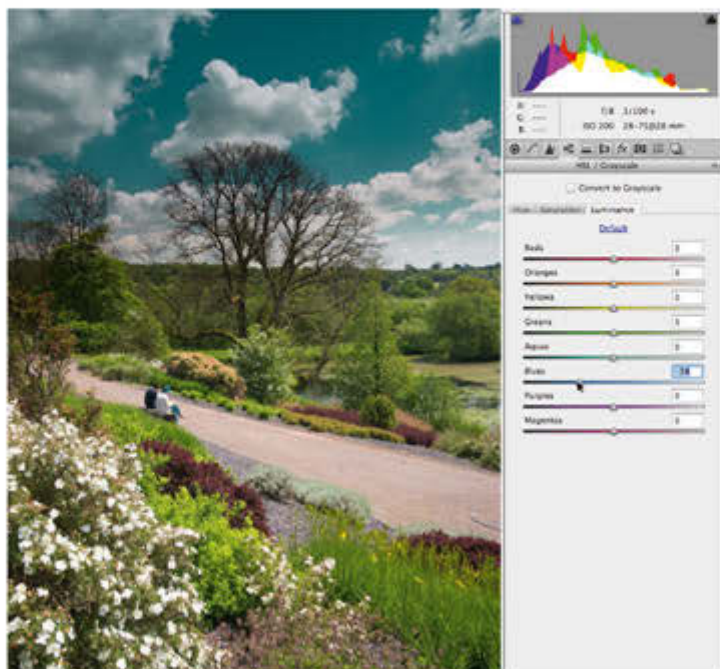
Analogue film photographers could use a filter that stops the visible spectrum of light entering the lens but that admits light with an infrared wavelength. When infrared light hits infrared-sensitive film, a variety of interesting effects can be captured. In monochrome infrared prints the light bounces off trees and grass in a scene to create bright white vegetation. This effect enables you to reveal organic shapes and textures that contrast with darker, non-organic objects in the image. This glowing vegetation phenomenon is known as the Wood Effect.

By using colour infrared film, the effects are even more dramatic. Vegetation still looks much brighter while blue skies dramatically darken, making plants stand out even more. A blue sky can also take on a more cyan look, while vegetation tends to display a warmer orange hue.

In this walkthrough we'll demonstrate how to use the HSL panels to target and adjust the hues and luminance of various colours to produce a false colour infrared look. We'll also demonstrate how to recreate the Wood effect in a monochrome conversion.

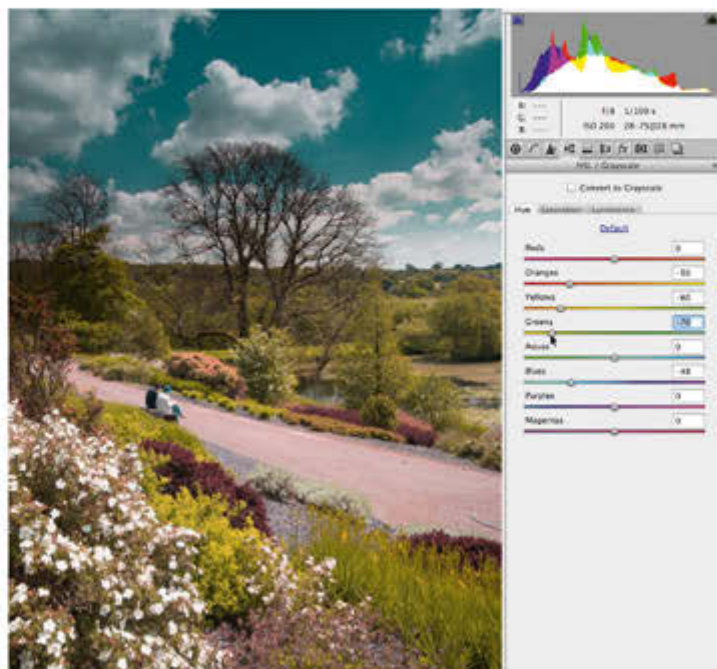






1 Turn the sky green

Open the PMZ10_infrared starting image in Camera Raw by double clicking the thumbnail in Bridge. Click the HSL/Grayscale panel and then click the Hue tab. Drag the Blue slider to -48 to give the blue sky a cyan hue. Colour infrared film can make a sky look darker, so click the Luminance tab. Drag the Blue slider left to -38. You now have a darker cyan sky, which is one of the false colour hallmarks of colour infrared film.



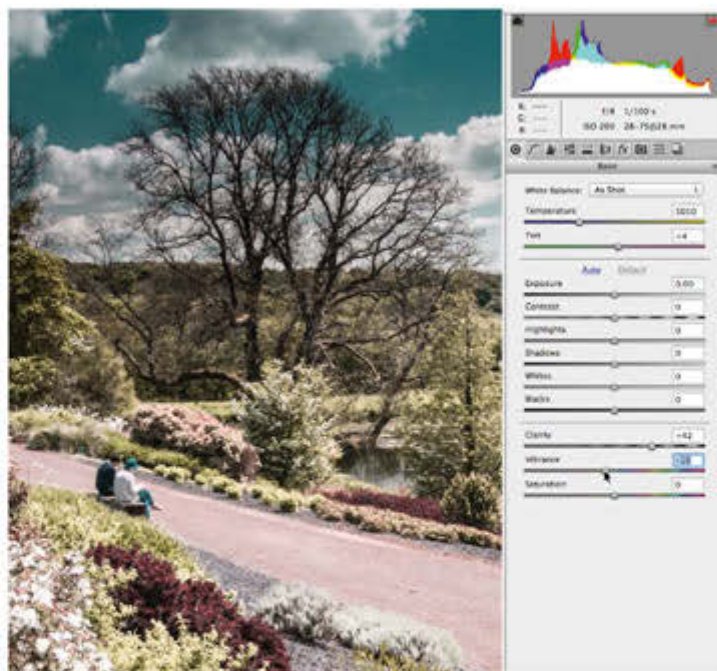
2 Adjust the colour of the plants

In colour infrared photography, organic subjects such as plants can take on a warmer reddish hue. Go back to the Hue tab. There's a lot of yellow in the source image's vegetation (as there is in almost any summer landscape image), so drag the Yellows slider left to -60 to add a more orange hue to the vegetation. Drag the Greens slider to -70 to warm up more of the plants in the scene. Set the Oranges slider to -50.



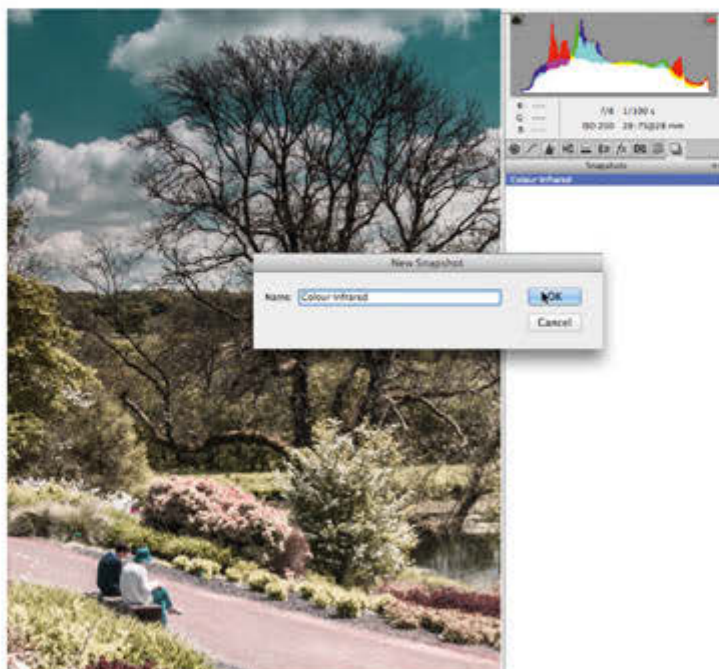
3 Lighten the vegetation

To create the brighter tones of vegetation captured on infrared film, click back on the Luminance slider. Drag the Red, Green and Yellow sliders up to +100 to selectively brighten plants and flowers featuring these colours. The vegetation looks too saturated, so click the Saturation tab and drag the Yellows to -38 and the Greens to -27. This makes the plants look less garish while preserving the saturation of the cyan sky.



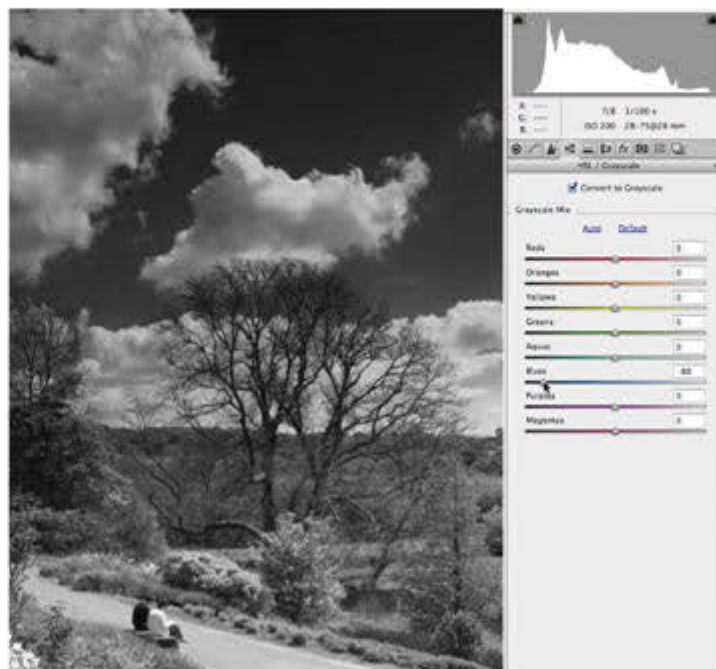
4 Reveal distant detail

After selectively tweaking the photo's hue, luminance and saturation to create false infrared colours, go to the Basic panel. When shooting with infrared film, you can capture more contrasting detail in distant mist-diffused midtones. Give the image's midtones more impact by dragging the Clarity slider right to +43. Drop the Vibrance slider to -10 to desaturate stronger colours while preserving the vibrancy of weaker ones.



5 Save a snapshot

You now have a shot that features the false colour properties of infrared film. Before recreating a monochrome infrared Wood effect, let's save our colour version. Click Save Image. Set the Format drop-down menu to JPEG. Keep Quality at 12. Click Select Folder and choose a destination for your file. Click Save. Click the Snapshots panel. Click the Create New Snapshot icon at the bottom. Label it Colour Infrared.



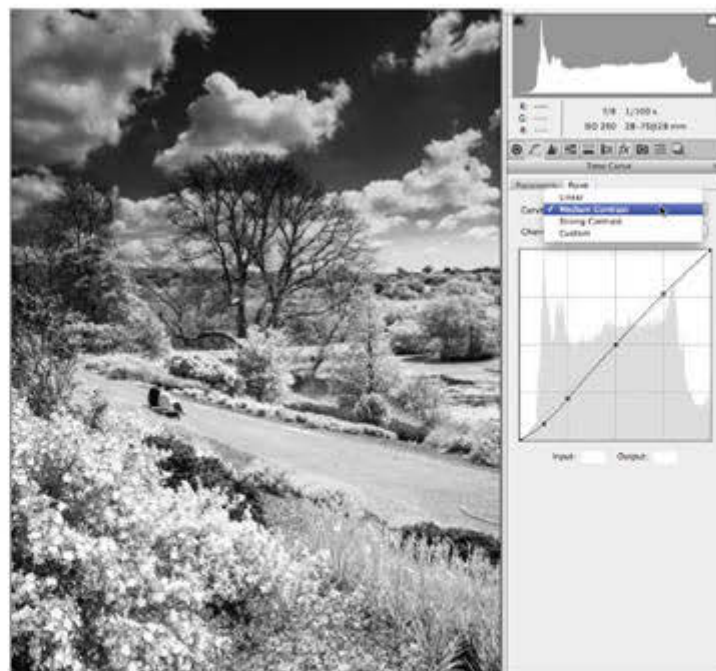
6 Create a mono conversion

We'll now create a monochrome infrared version of our scene. Click the fly-out icon on the right of the Basic panel and choose the Camera Raw Defaults option. This will reset the image to its original colours and tones. Click the HSL/Grayscale panel. Tick the Convert to Grayscale box to access the Grayscale Mix tab. For the darker sky associated with monochromatic infrared film, drag the Blue slider left to -80.



7 Lighten the vegetation

To create the luminous-looking vegetation associated with black-and-white infrared film, drag the Yellows and the Greens right to +100. There are some red leaves in the image so we can lighten these too by sliding Reds up to +100. Instead of using the sliders, you can grab the Targeted Adjustment tool from the toolbar. Click to sample a specific area (such as the sky). Drag down to darken the sampled colours, or up to lighten them.



8 Save a monochrome snapshot

To give distant details more punch, go to the Basic panel and drag Clarity to +38. For a more striking contrast, go to the Tone Curve panel and click the Point tab. Set the Curve drop-down menu to Medium Contrast. Use the Save Image option to save a JPEG version of your mono infrared scene. Go to the Snapshot panel and create a new Mono Infrared snapshot. You can then toggle between the settings for either version with a click. ■



Creative effects

Enhance your images with special effects using advanced tools and techniques in Camera Raw

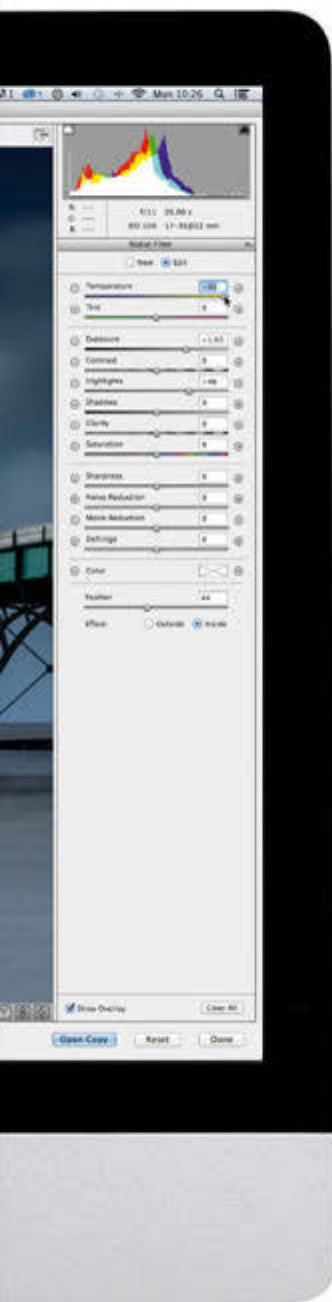
146 Create retro special effects
Give your digital images the filmic look by adding analogue photography artefacts using a host of techniques

150 Make stunning portraits using Camera Raw
Use a host of professional retouching tools and techniques to make your portraits perfect in Camera Raw

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Change the colour temperature and tones of a photo and add light effects to create a simulated nocturnal scene

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Take your portrait enhancements into the creative realm by subtly changing the lighting and colours

164 Double process a raw file to improve exposure
Process a raw file twice to reveal details in the highlights and shadows, and then combine the best bits of both versions





Create retro special effects

Give your digital images the filmic look by adding analogue photography artefacts using a host of techniques

Your digital camera's various shooting modes are designed to help you capture a scene's true colours and display detail throughout a wide range of tones, while keeping artefacts such as digital noise to a minimum. Each shot is stored digitally, so its colours and tones won't fade over time, and the image will always look as good as new. It therefore seems ironic to distress pristine digital photographs and make them look like analogue film prints that have faded over time, as well as producing images that appear to have been blighted by in-camera artefacts such as vignetted edges and foggy light leak patches. However, applying retro film artefacts in Camera Raw adds character to your digital shots and evokes a sense of nostalgia. In this walkthrough we'll reveal how to use the Effects panel to add

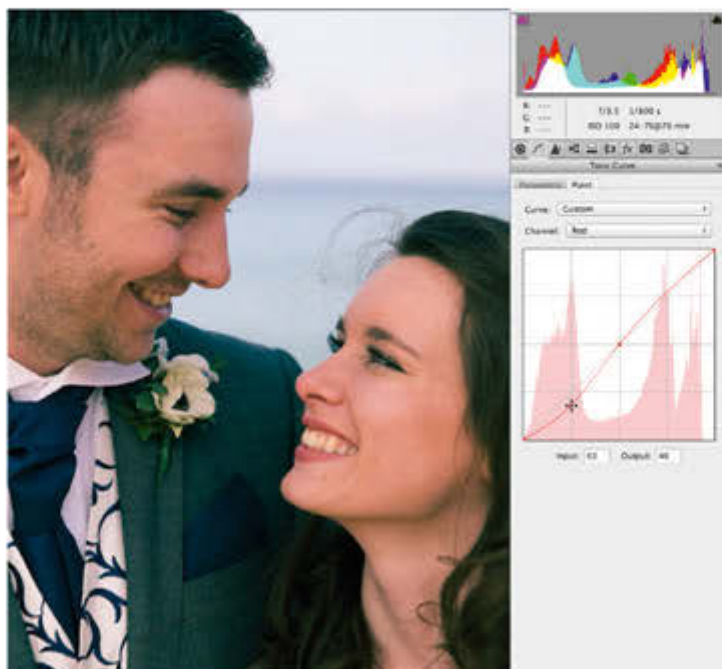
realistic clumps of analogue film grain (rather than unwanted dots of digital noise). This is akin to adding crackle and hiss to a digital sound recording to conjure up a vintage vinyl vibe. We'll demonstrate how to fade colours and create a flatter contrast. We'll also show you how to use the Adjustment Brush to mimic artefacts produced by less sophisticated analogue lenses, such as by blurring around the edges of the frame.

We'll also demonstrate how to tinker with individual colour channels to create the cross-processed colours that are associated with old film stock and darkroom processing techniques. After spending time creating a retro look, we'll save it as a preset, so that you can apply your analogue film effects to other pictures with a single click.



BEFORE

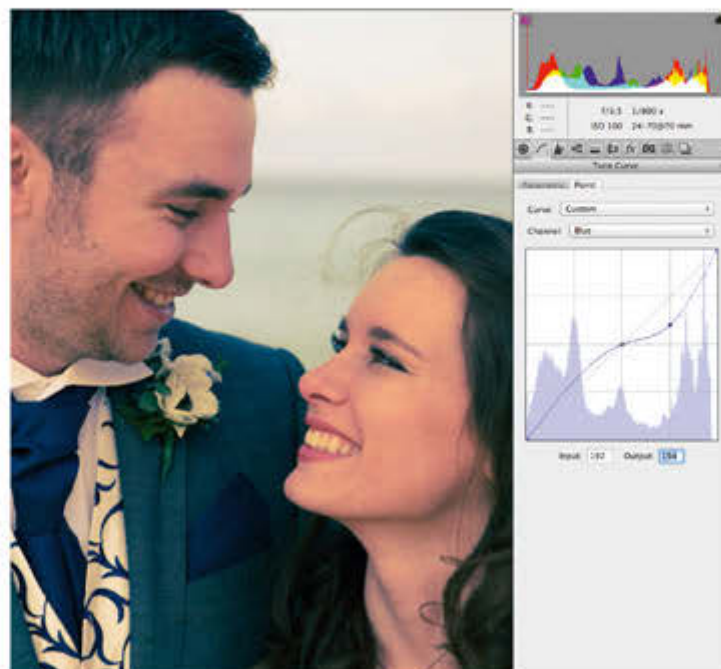




1 Cross-process the reds

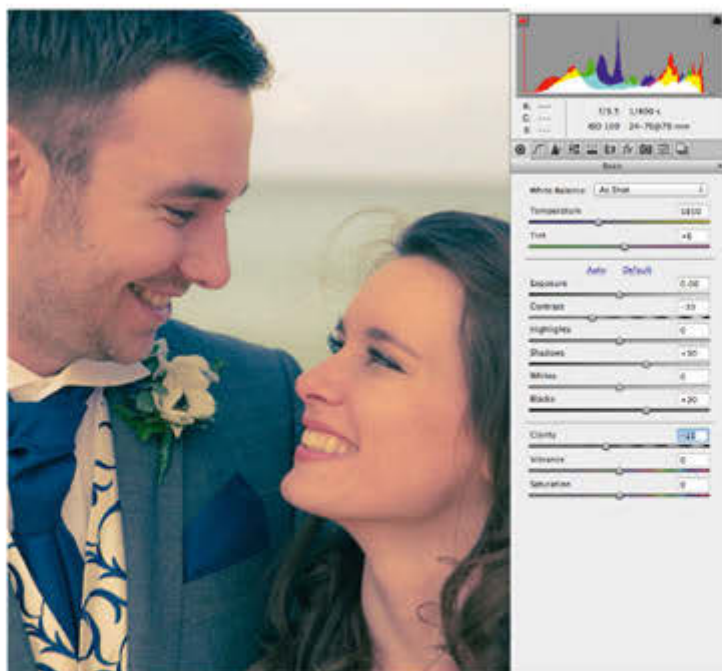
Open PMZ02_retro. Click the Tone Curve panel and then click the Point Curve tab. Set the RGB drop-down menu to Red. Click to place a point in the centre of the curve at an Input and Output level of 128. Place a point lower down the curve with an input of 64 and then drag to create a lower output of 46.

This operation adds a green hue to the shadows and magenta to the skin tones.



2 Produce filmic colours

Go to the Blue channel and place an anchor point in the middle of the curve line with the Input and Output levels at 128. Place a second point in the top half of the curve line at an Input of 192, and drag it down to a lower output of 154. By reducing the blue highlights, you add a vintage wash of yellowy green to the highlights. We now have a more filmic cross-processed colour palette.



3 Reduce the contrast

To reduce our digitally sourced photo's strong range of tones, go to the Basic panel and increase the Shadows slider to +30. Lighten the Blacks to +30. Decrease the Contrast slider to -30 to produce more washed-out looking tones. Drag the Clarity slider to -15 to reduce the midtone contrast and produce a slightly softer-looking photograph. In essence, we're doing the opposite of what we would normally do to improve a photo.



4 Over-expose the edges

Old film lenses could be less effective at exposing the negative with a consistent amount of light, leading to a change in edge exposure. To recreate this look, toggle open the Effects panel. In Post-Crop Vignetting, set Amount to +40. Set Style to Color Priority to include more of the cross-processed colours in the vignetted edges. Increase Midpoint to 65 to push the vignette towards the corners.



5 Add film grain

Double click the Zoom tool's icon to magnify the shot to 100%. This will help you to produce more effective-looking film grain. In the Effects panel, push the Amount slider up to 20 for more noticeable grain. Set Size to 54 for larger chunks. Increase Roughness to 78. This mimics the more organic-looking clumps of film grain (instead of the sharp greyscale dots produced by high-speed ISO digital noise).

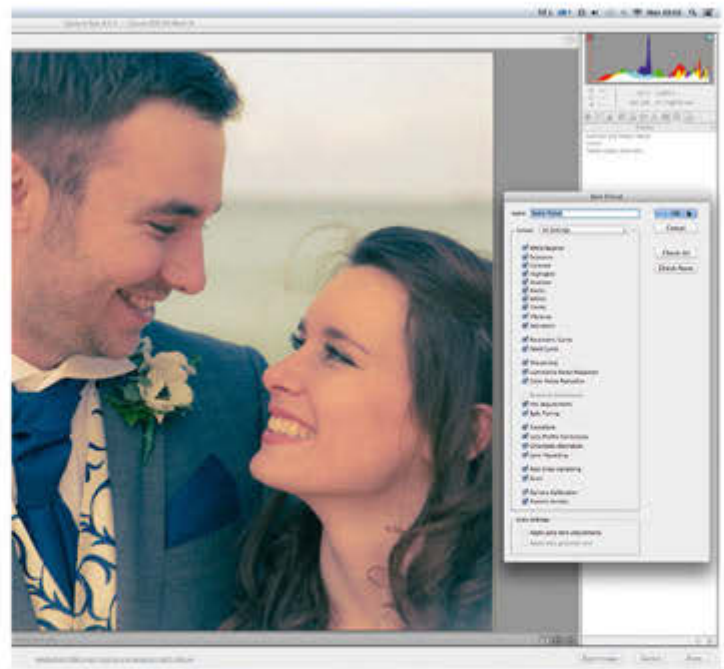
6 Blur the edges

Zoom out to Fit in View. Click the Adjustment Brush icon. Drag the Clarity slider left to -100. This decrease in midtone contrast will add a blur effect to your brush strokes. Drop Sharpness to -100 too. Set the brush tip size to 12. Use a Feather of 80 for a soft edge. Paint around the edges of the frame. Image details will become gently blurred, but the grain you applied in the previous step will remain.



7 Add a light leak

To add a light leak effect, click the New button in the Adjustment Brush panel. Set Sharpness and Clarity back to 0. Increase the Exposure slider to 2.30. Click the Color swatch. Choose an orange colour with a Hue of 44 degrees and a Saturation of 90%. Set Density to 73. Click and paint down the side of the frame to create the blown-out tones and colours associated with fogged film.

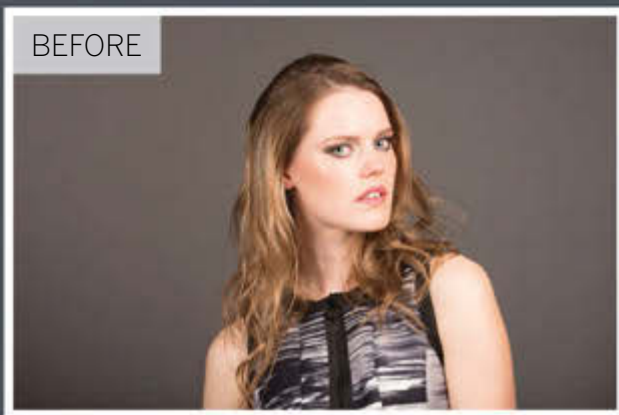


8 Create a preset

Once you've spent lots of time producing your retro look, it makes sense to save all the adjustments as a customised preset that you can apply to other shots with just a few clicks. Go to the Presets panel and click the New Preset icon at the bottom. In the New Preset window, label it Retro Preset. Leave all the boxes ticked. Click OK. The new preset will appear in the Presets panel. ■

GET THE FILES HERE: http://bit.ly/PMZ38_ACR





Retouch portraits like a professional

Use a host of retouching tools and techniques to make your portraits perfect in Camera Raw

When processing a portrait in Camera Raw you may feel under more pressure to produce great-looking results, because you'll want the photo's subject to be pleased with your image-editing skills. However, there are a few factors that may conspire against your plans to capture a perfect portrait. For starters, your subject may be having a 'bad hair day' and it's not until viewing the image at 100% that you'll notice distracting fly-away hairs obscuring their features. Your model may also be suffering from spots, which they aren't able to totally conceal with make-up. If you use a burst of flash to bring out the shape and form of your subject's face then you may inadvertently create shiny hot spots on the skin that make the subject look unflatteringly sweaty.

Camera Raw has all the tools you'll need to counteract shiny hotspots and remove other unsightly blemishes, as you'll see in our comprehensive portrait-retouching walkthrough starting on the next page. We'll also demonstrate how to set up and store custom Adjustment Brush tips that perform a range of selective enhancements, such as whitening teeth, teasing out fine iris details and removing unsightly veins in the eye whites. You can then call upon the services of these custom portrait-enhancing brush tips in the future and speed up your retouching workflow on other portraits. We'll also show you how to create a smoother, more youthful complexion by selectively adjusting the Clarity of the skin and creating healthier, more natural-looking skin tones with help from the White Balance tool.





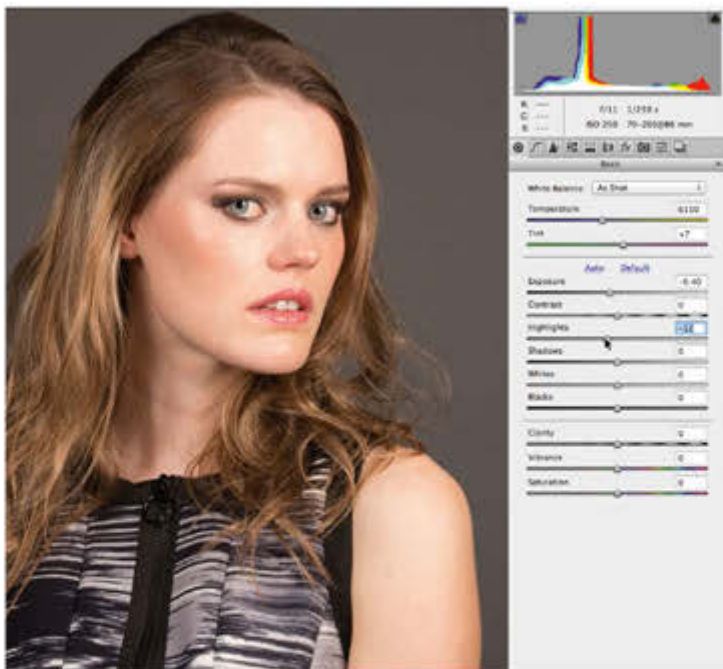
1 Improve the composition

Open PMZ51_portrait in Camera Raw. When shooting models it can be a challenge to capture a well-framed composition. The subject in this portrait looks off-balance as she's leaning left, but looking right. There's lots of empty space to her left too. It's good practice to improve the composition first before you start fixing other problems. This saves you wasting time editing an area that will be cropped out later.



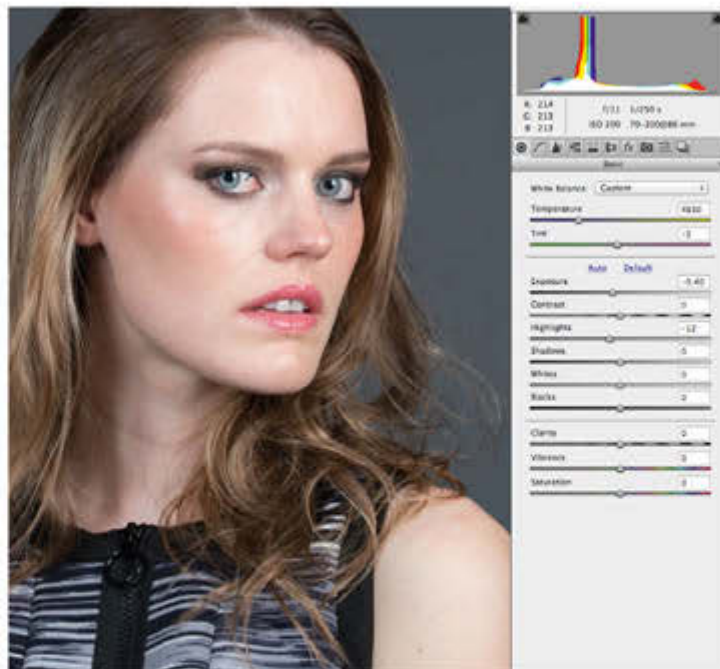
2 Rotate and reposition

Hold the mouse down on the Crop tool icon and choose 1:1. This will create a square crop. Drag to crop out some of the empty space around the subject. Drag just outside of the crop overlay to rotate it. This will counteract the subject's lean and straighten her up once we apply the crop. Drag inside the overlay to create space on the right of the frame for the subject to look into, which is conventional practice in portrait composition.



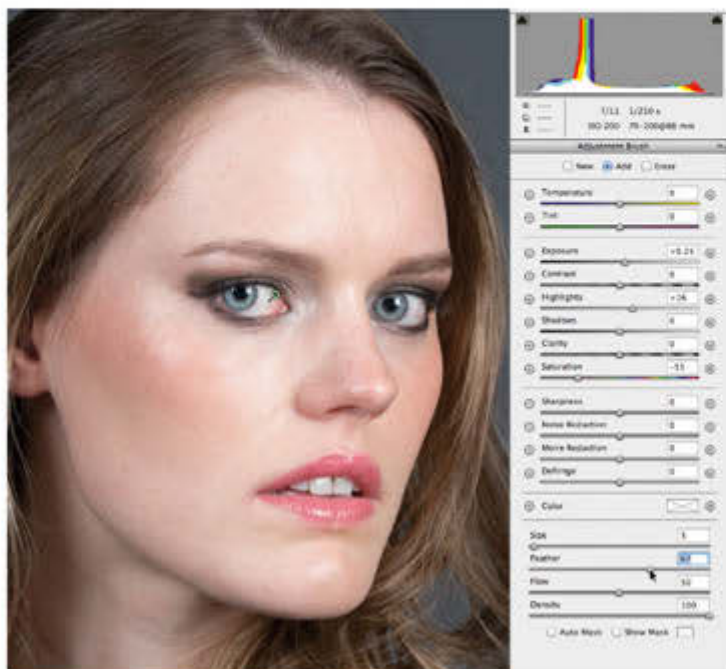
3 Tweak the tones

Click another tool (such as the Zoom tool) to apply the crop and rotate the image. As well as straightening her up and repositioning her, the subject now looks more prominent in the frame. Her highlights are a little blown-out and lack detail, however, so go to the Basic panel and drop the Exposure a little to -40. Pull the Highlights slider down to -12. This restores more colour and detail in the brighter parts of the portrait.



4 Balance the whites

Our subject looks a little warm due to an incorrect or ineffective white-balance setting in-camera. This makes her skin tones look too orange. You could experiment by applying different White Balance presets in the Basic panel, but for more healthy skin tones grab the White Balance tool and click her eye whites. This cools down the warm tint in an instant and creates a custom temperature of 4650 degrees.



5 Set up the Adjustment Brush

Use the Zoom tool to magnify the shot to 100% so you can work more effectively on the subject's eyes. Grab the Adjustment Brush tool from the toolbar. The Basic panel will be replaced with the Adjustment Brush panel. Click to place a pin on the white of an eye. Drop Saturation to -53 to reduce the impact of veins. Push Exposure up to +0.25 and increase Highlights to +16 to brighten the whites. Set Size to 3 and Feather to 67.



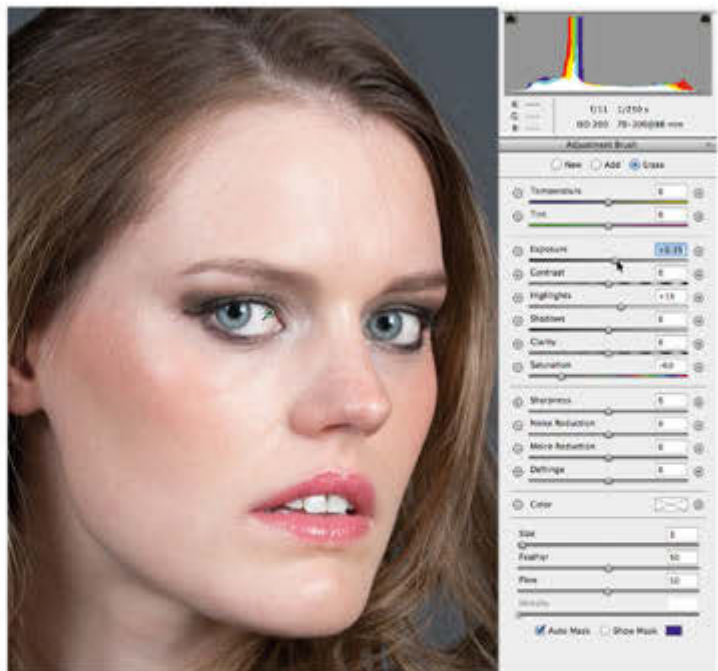
6 Whiten the eyes and teeth

To lighten and desaturate the eye whites without altering the iris, tick the Auto Mask box. This helps restrict the Adjustment Brush's behaviour to alter just the sampled eye whites. Paint over the whites of both eyes to lighten and desaturate them. Paint over the teeth to whiten them and remove any staining. To see precisely which areas are being adjusted, tick Show Mask. Chose a contrasting mask colour from the adjacent swatch.



7 Refine the mask

The mask will reveal which areas are being brightened and desaturated as coloured patches. Auto Mask should protect neighbouring regions from being adjusted, but if the brush has strayed outside the eye whites or teeth, tick the Erase button. Paint over any masked areas to stop them from being adjusted. You can also click the Add button and paint to include areas of eye whites or teeth that you may have missed.



8 Fine-tune the adjustment

Once you've tidied up the mask, untick the Show Mask box so that you can see the edited tones more clearly. When retouching a portrait, it's easy to go too far and create glowing white eyes. To tweak the results produced by a particular pin, simply click the pin to target it. The sliders in the Adjustment Brush panel will change to the values attached to the pin. In this case, push Exposure up to +0.35 for slightly brighter eye whites.

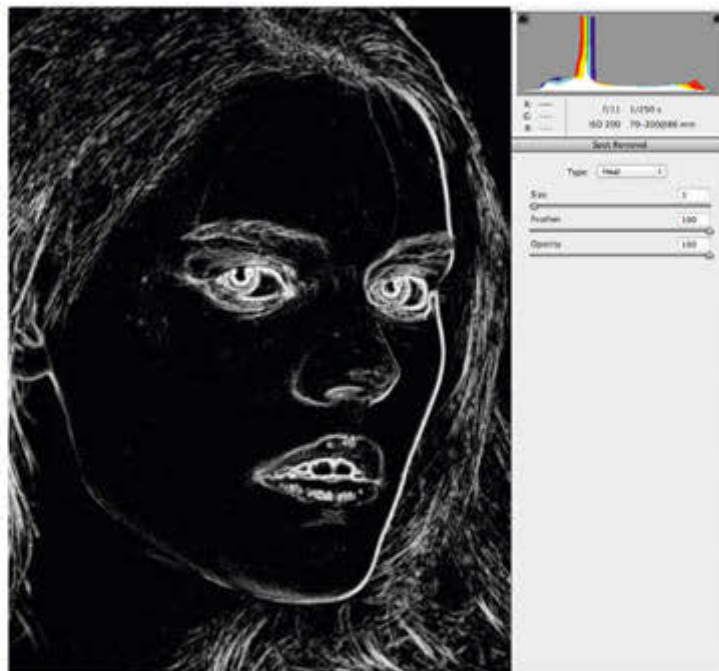
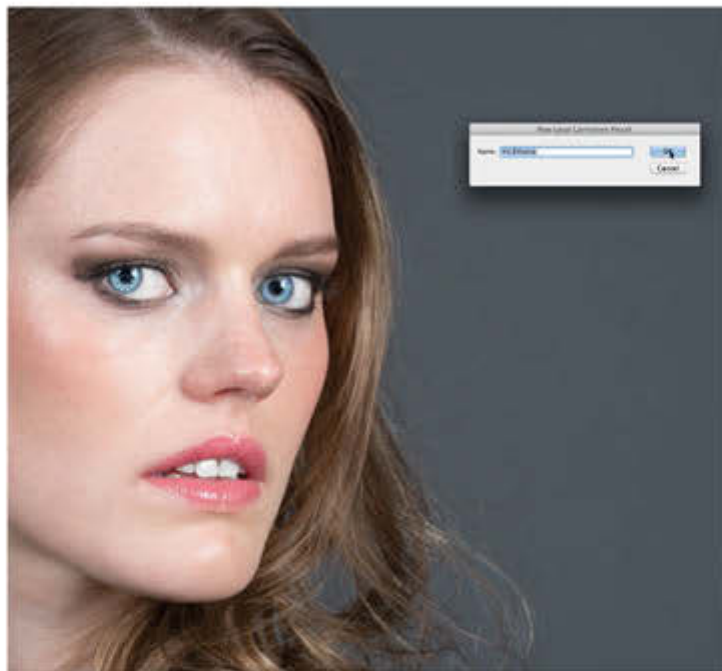


9 Save a preset

Once you've spent time tweaking the Adjustment Brush's sliders to produce a specific result (such as whitening eyes and teeth), you can save it as an easy-to-access preset. Click the little fly-out icon at the top right of the Adjustment Brush panel. Choose New Local Correction Settings. Label the preset as Brighten whites and remove stains. Click OK. You can access this preset from the fly-out icon at any time.

10 Enhance the irises

The eyes are the first thing that people notice, so it's worth enhancing the subject's irises to give them more impact. With the Adjustment Brush still active, click the New icon in the Adjustment Brush panel. Click to place a pin on an iris. Paint with a small brush over the iris. If you keep Auto Mask ticked, the tip won't stray past the contrasting edge of the iris. Set Exposure to +0.45 and Contrast to +30. Boost Highlights to +26.

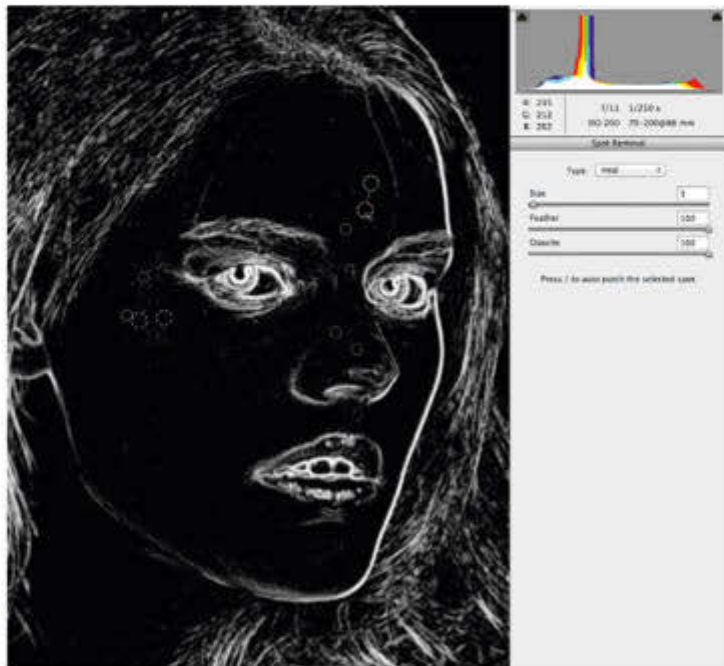


11 Save an iris preset

To help tease out fine midtone textures in the iris, set Clarity to +35. To bring out more of the iris's blue colouring, drag the Temperature slider to -18. Boost the Saturation slider to +15. Now that you've set up the iris-enhancing brush tip, save it by clicking the fly-out icon and creating a New Local Connection preset called Iris Enhance. Click OK. Paint over the subject's other iris to create a matching pair.

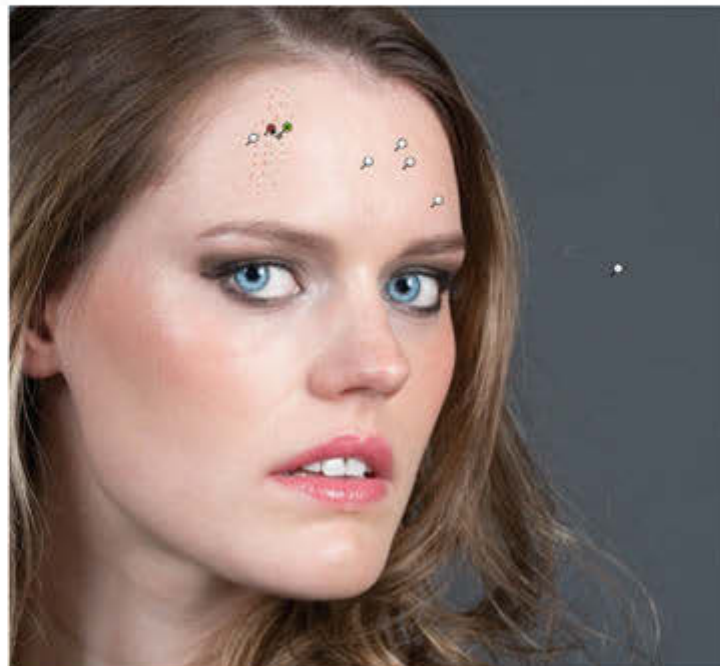
12 Discover spots

Select the Spot Removal tool from the toolbar. The Spot Removal panel will appear. Set Size to 3. Set the Type drop-down menu to Heal. This will help to create a seamless skin graft when you transfer clean skin over an unwanted spot. To discover spots more easily, tick the Visualize Spots box. Adjust the slider to get a greyscale preview of potential spots. Contrasting spots will stand out in white.



13 Remove the spots

Click to place the cursor over a potential spot. A circular red overlay will appear over the spot. A connected green overlay will sample adjacent clean skin and place the sampled pixels inside the red overlay to hide the spot. Drag inside an overlay to reposition it. Drag the edge of an overlay to resize it. The white spots in the Visualize Spots preview should be replaced by black, which means they've been eradicated.



14 Remove unwanted hairs

In older versions of Camera Raw, you could only create circular shapes when removing spots. From Camera Raw 8.4.1 onwards, you can paint over non-circular shapes to retouch the image. Our subject has stray hairs hanging over her brow. Paint irregularly shaped strokes over these hairs to replace them with adjacent patches of clean skin. Tidy some of the fly-away hairs around the edges of the hair.



15 Resample a source

When you click (or paint an irregular shape) to place a spot-removal overlay on a spot or hair, the Spot Removal tool will automatically attempt to choose a clean patch of pixels that have a similar colour and tone to the areas around the unwanted object. If it samples an area that isn't suitable, try pressing the / key. This will cause the green overlay to automatically sample a new area.



16 Smooth the skin

Grab the Adjustment Brush once again. The New button will automatically be ticked in the Adjustment Brush panel. Zero the sliders apart from Clarity, which you should set to -51. Drop Contrast to -15. Untick Auto Mask so that you can smooth out contrasting shiny hot spots as well as the midtones of skin pores. Paint over the subject's face for a more flattering complexion. ■



Turn day into night

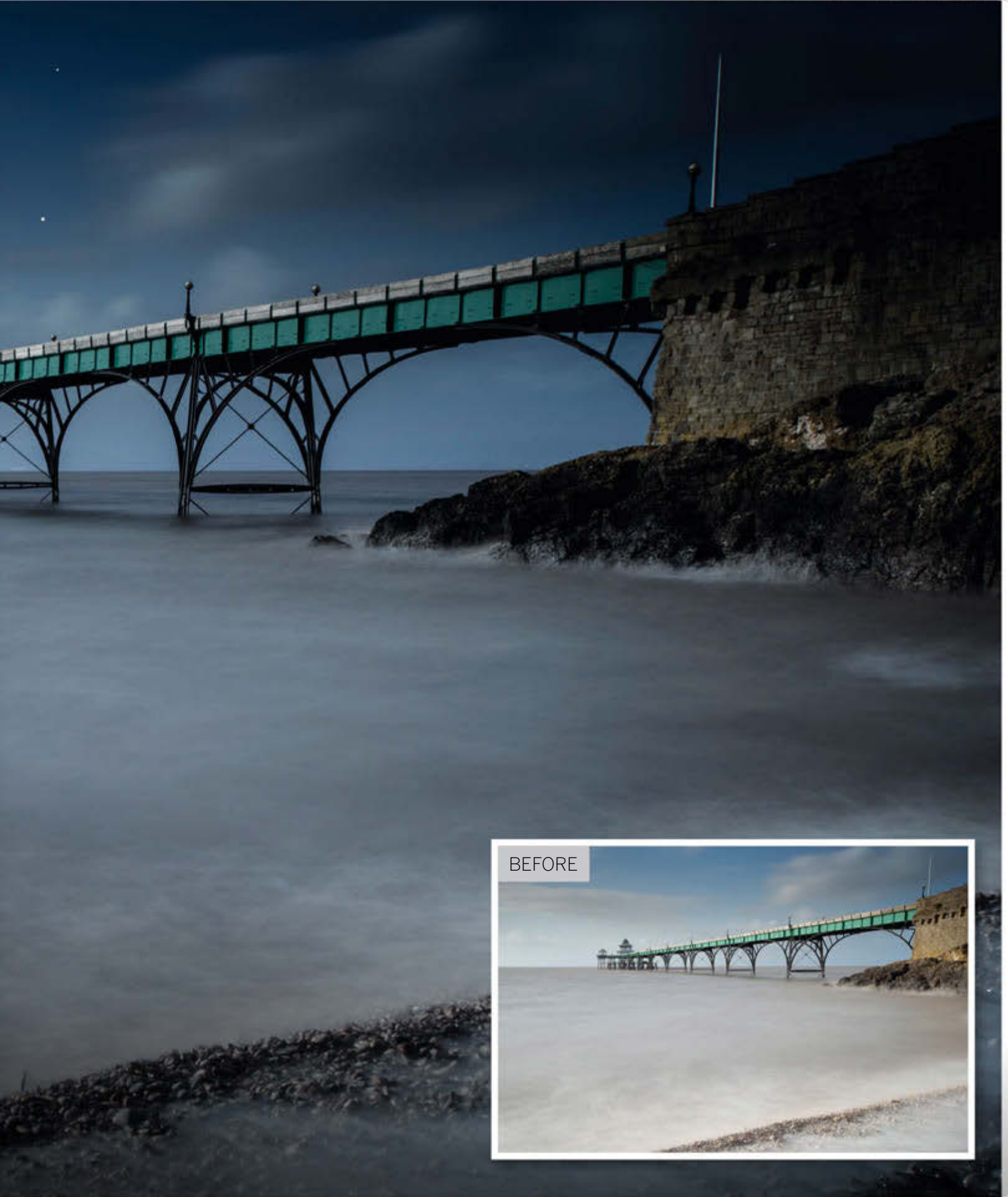
Change the colour temperature and tones of a photo and add light effects to create a simulated nocturnal scene

Shooting a location at night can produce a photo with a moody and atmospheric look, but it also raises practical challenges in relation to your camera settings. You could open the lens's aperture to let in more light, but that will result in a shallow depth of field that creates background or foreground blur. By bumping up the ISO speed you can shoot handheld with a faster shutter speed, but that could add unwanted and distracting chroma and luminance noise to your photo. If you have access to a tripod, you could use a lower ISO setting, a slower shutter speed and a narrower aperture to get more detail in focus, but that approach is more time-consuming and it might limit your compositional choices.

By using the Camera Raw colour- and tone-adjusting tools to fake a nocturnal look, you can capture any location during

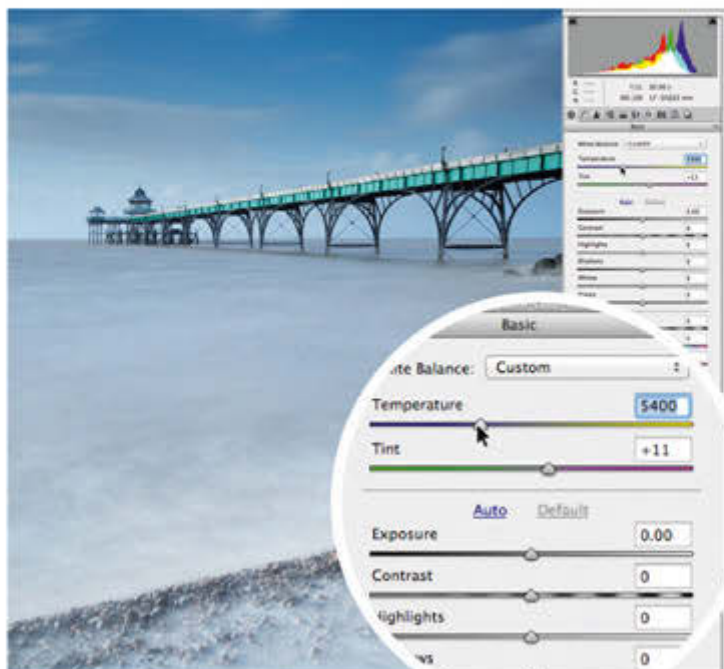
the day without having to lug a tripod around. This frees you up to capture spontaneous events with a wider choice of composition. In daylight it's also much easier to capture a shot with both the foreground and background detail in focus. It's also a fun project!

In this walkthrough we'll show you how to produce a cooler, bluer colour temperature, which helps evoke a nocturnal light source such as the moon's sunlight-reflecting surface. To help sell the nocturnal illusion, we'll show you how to add a computer-generated moon using the Radial filter, and then duplicate and modify the filter to add a contrasting lunar corona. You'll use the Adjustment Brush to add the moon's reflection to the water. You'll also make atmospheric shadows close in around the edges of the frame, courtesy of the Camera Raw Effects panel.



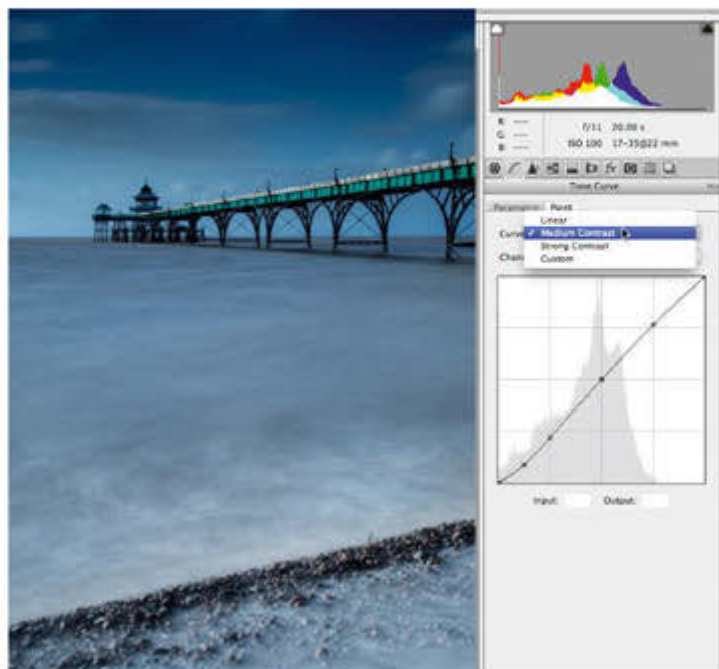
BEFORE





1 Cool down the colour

Open PMZ35_night in Camera Raw. Go to the Basic panel. Our starting image has a colour temperature of 750, which adds a warm hue to the scene. Drag the Temperature slider left to a cooler value of 5400 degrees K (or you might find it quicker to double click the Temperature field and type in the precise value). Already the image is taking on a nocturnal look, just with a simple temperature change.



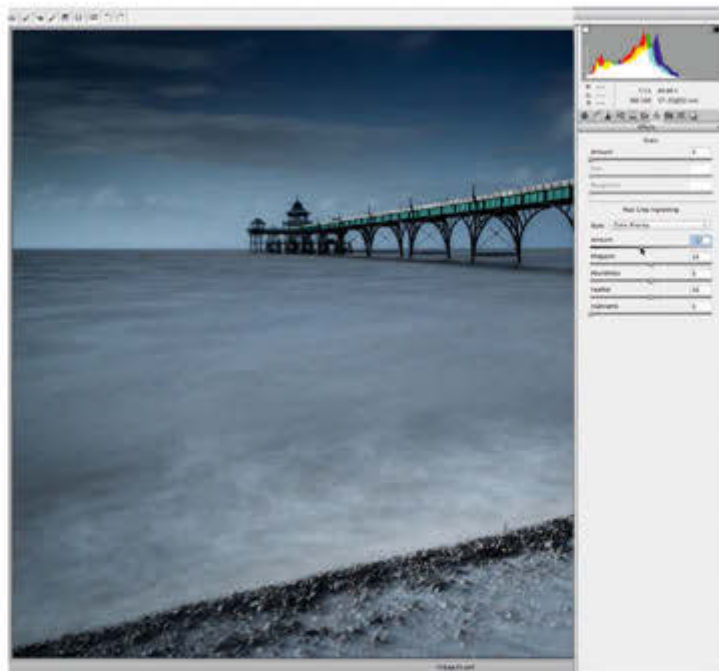
2 Darken the shadows

The direct sunlight in our daytime-sourced starting image is too intense for our purposes. To reduce the brightness and evoke a weaker lunar light source, drag the Exposure slider left to a value of -0.70. Boost Contrast to +21. Set Highlights to -30. For darker shadows, drag Blacks to -45. Set Clarity to +35. Go to the Tone Curve panel's Point Curve tab and set the Curve drop-down menu to Medium Contrast.



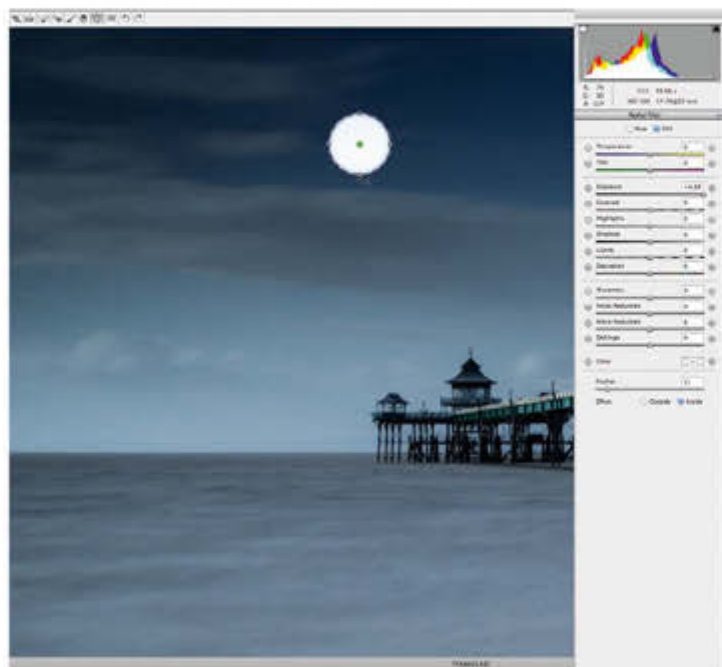
3 Desaturate the colour

Our cold blue colours look a little too saturated and garish (and may not print very well). For a more subtle blue cast, go down to the lowest section of the Basic panel and reduce the Vibrance slider to a value of -25. Drop the Saturation slider to -16. This should help to create a weaker wash of blue and mimic the effect of sunlight being reflected from the moon. You may need to tweak the settings further depending on your own monitor.



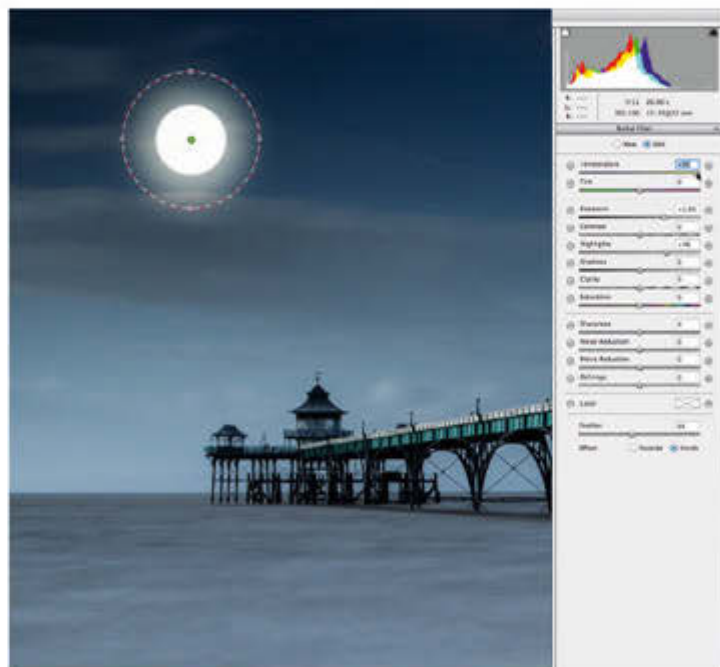
4 Vignette the edges

To create a more atmospheric-looking nocturnal scene, you can make the shadows appear to close in around the edges of the frame. To do so, toggle open the Effects panel. Go to Post Crop Vignetting. Set the Style drop-down menu to Color Priority to darken the edge colours in a more natural way instead of simply tinting them with black. Set the Amount slider to -17 to add the moody vignette effect.



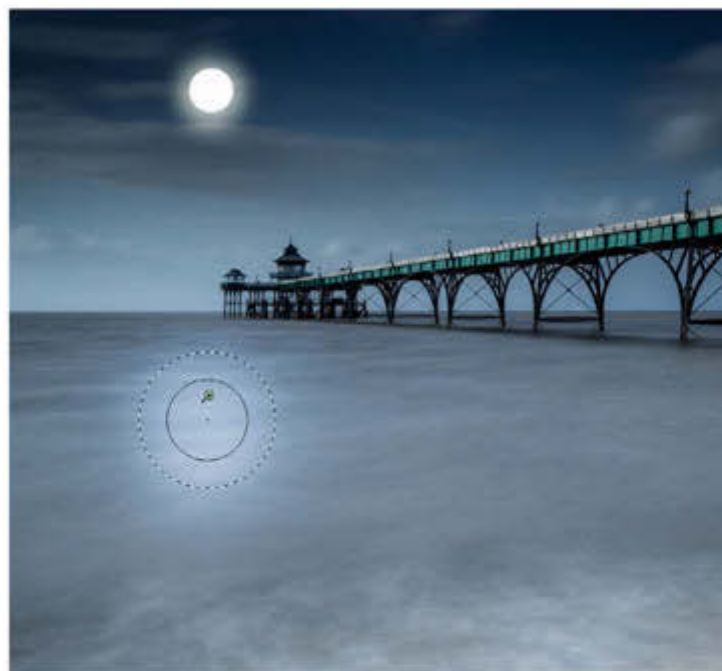
5 Add the moon

To add a convincing lunar light source, go to the toolbar and grab the Radial Filter. Set Exposure to 4 for a bright light source. Drop Feather to 11 for a relatively hard edge. Hold down Shift to constrain the shape to a circle, and drag to draw the moon. The apparent size of the moon varies naturally, so don't worry about getting the size exactly right. You can reposition the moon to stop it overlapping the clouds by dragging the green pin at its centre.



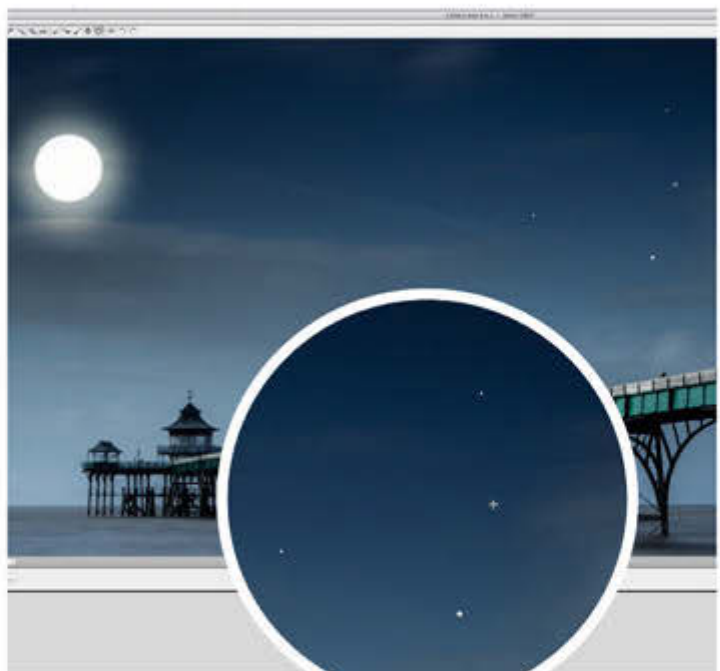
6 Add the corona

Right click the Radial Filter's pin and choose Duplicate from the context-sensitive pop-up menu. Hold down Shift and drag an edge control point to increase the duplicated Radial filter's size. Drop Exposure to a weaker +1.65. Set Feather to 44 for softer edges. Increase Highlights to +26 to lighten the overlapping clouds. Increase Temperature to +95 for a warmer lunar corona that contrasts with the cool blue sky.



7 Create the reflection

Grab the Adjustment Brush from the Camera Raw toolbar. Set Temperature to a cool -45. Set Exposure to +1.20. Set Highlights to +47 to brighten the patches of blurred, foamy water. Drop Saturation to -35. Set Size to 12. Choose a soft edge by setting Feather to 80. Finally, set Density to 73. Paint over the sea to add a hint of the moon's reflection in the water. Ensure the centre of the reflection lines up with the centre of the moon, or the effect will fail.



8 Add the stars

You can fine-tune the position of the Adjustment Brush's reflection by dragging its pin. You can click either pin and tweak any of the associated sliders to refine the effect that they produce. Finish off by grabbing the Radial Filter. Zoom in to 100% magnification. Shift drag to add a few tiny stars. Untick the Show Overlay box so you can see the stars more clearly as you draw. Resist the temptation to make too many! ■

Transform any portrait

Take your portrait enhancements into the creative realm by subtly changing the lighting and colours

When we process a portrait in Camera Raw we attempt to edit its colours and tones to overcome problems with exposure or colour balance, so that the subject in the photo looks like they did in the studio. We may retouch the image to tidy away temporary problems, such as spots on the skin or stray fly-away hairs that went unnoticed during the shoot. This subtle retouching helps us get the subject to look their best. When posing for a portrait, the subject may experiment with different looks by the way that she applies make-up or styles her hair, for example. As photographers we can also experiment with different looks and moods by the way we light the scene.

In this tutorial we'll demonstrate how you can continue to experiment with different looks after a portrait has been captured, thanks to the Camera Raw tool set. The model in our starting image has already bleached her hair blond, but she may want to see how she looks as a brunette. We could try to tint the blonde hair a different colour by using the HSL tab, but because the skin tones also contain yellows we'd end up tinting her face as well as her hair.

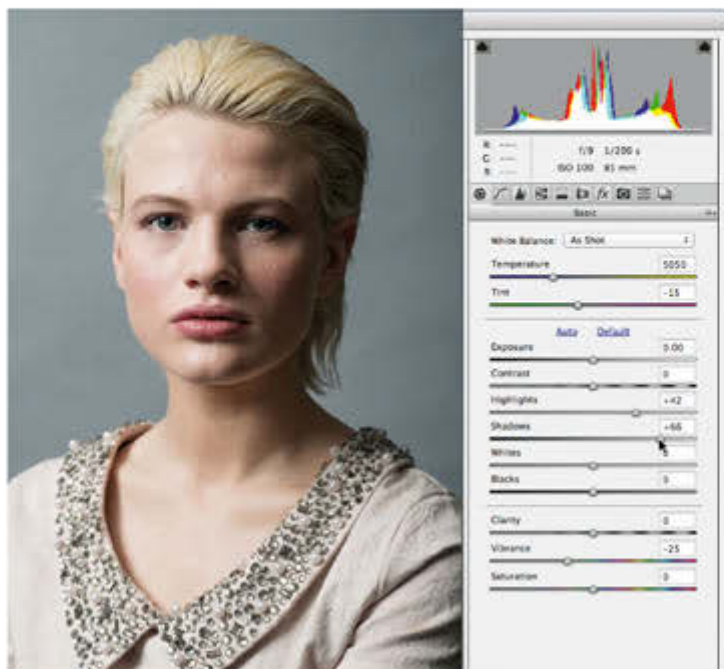
We'll show you how to use the Adjustment Brush to digitally dye her blond hair brown. You'll learn how to avoid dyeing her adjacent skin tones (and the background) brown by using the Adjustment Brush's mask tool.

In our starting image, the side-on flash creates strong contrasting tones. For a more flattering portrait we could light the subject from the front to fill in the harsh shadows. By using the Adjustment Brush and Basic panel sliders, you can create a more flattering high-key lighting effect.

BEFORE

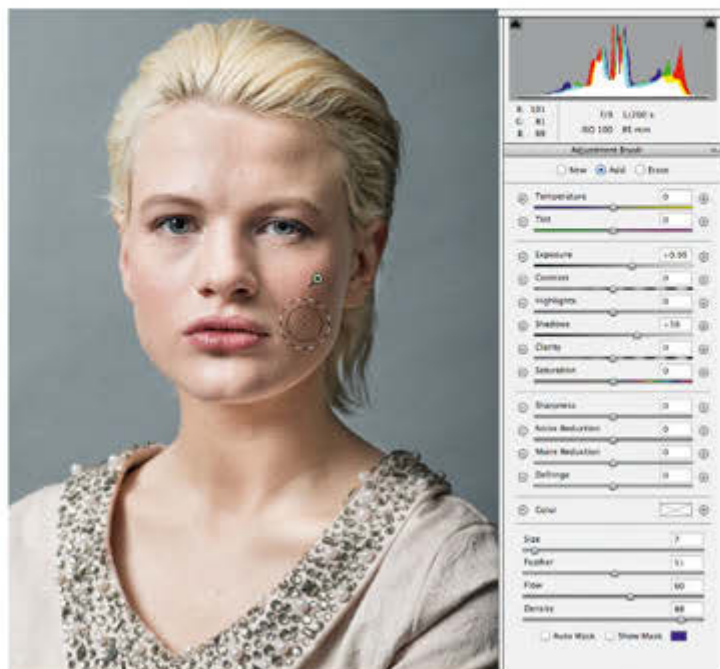






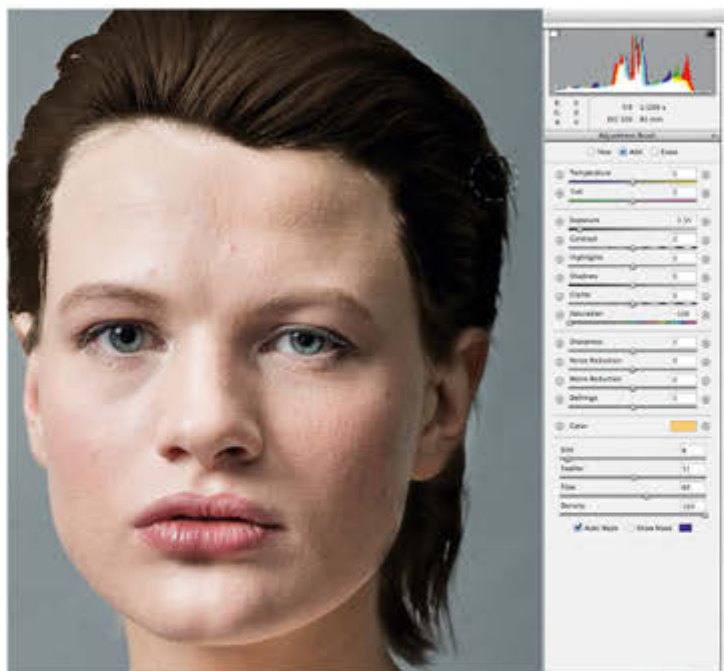
1 Open in Camera Raw

Open PMZ90_creative. Before recolouring the subject's hair it makes sense to create our high-key lighting effect, because this will restore detail to hair hidden in the shadows. In the Basic panel, drag the Shadows slider to +66 to selectively lighten the shadows. By dragging Highlights to +41 you can create a lighter, more friendly backdrop. Drop the Vibrance slider to -26 for a more subtle wash of colour.



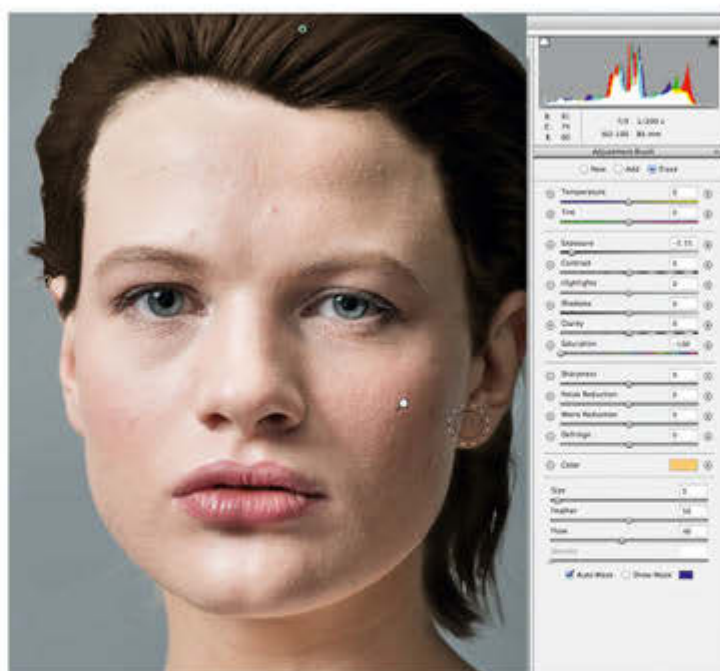
2 Fill in the shadows

Grab the Adjustment Brush. In the Adjustment Brush panel, set Exposure to +1.00. Push Shadows up to +30. Untick Auto Mask. Set Size to 10, Feather to 51 and Flow to 60. Set Density to 88. Click to place a pin on her cheek. Paint over the shadows on her face and hair to lighten them. This creates less contrast and makes the subject look like she was lit from the front, recreating a more flattering high-key lighting setup.



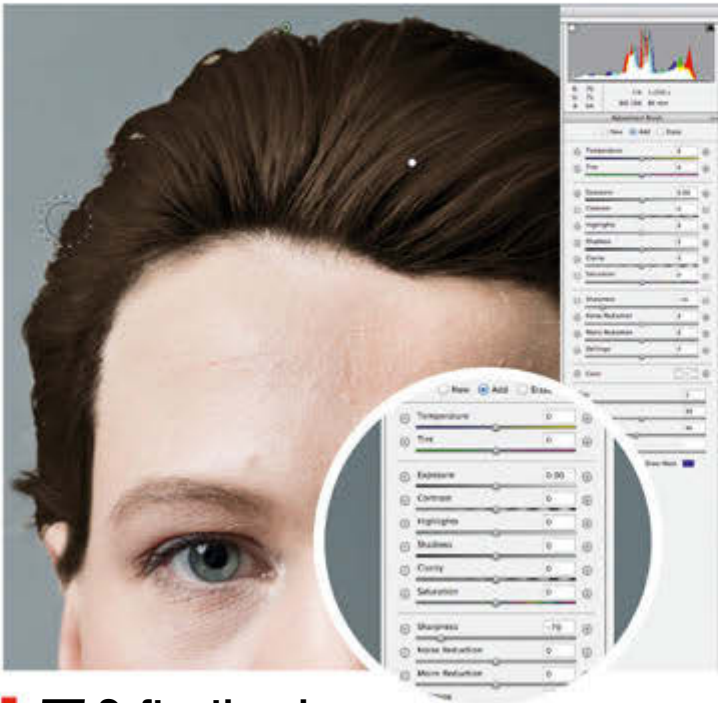
3 Choose a colour

In the Adjustment Brush panel, click New. Click the Color swatch. In the Color Picker, set Hue to 36 and Saturation to 54 to choose an orange colour. We can't see the brunette tint that we need, but we can use orange as a starting point. Click OK. Set Exposure to -3.35 for a darker tint. Drop Saturation to -100. Set Density to 100. Tick Auto Mask. Click to place a pin on her hair and paint to dye it brunette.



4 Remove the stray paint

As you paint over the edges of the subject, the ticked Auto Mask box helps to stop the brush strokes from dyeing the background. Tick the Erase button and paint to remove any patches of digital dye that have strayed over the skin. Click back on the Add button and paint over any remaining traces of blonde hair. You may need to untick the Auto Mask button to dye contrasting blonde hairs. It's a fiddly job, but well worth taking extra time to get right.



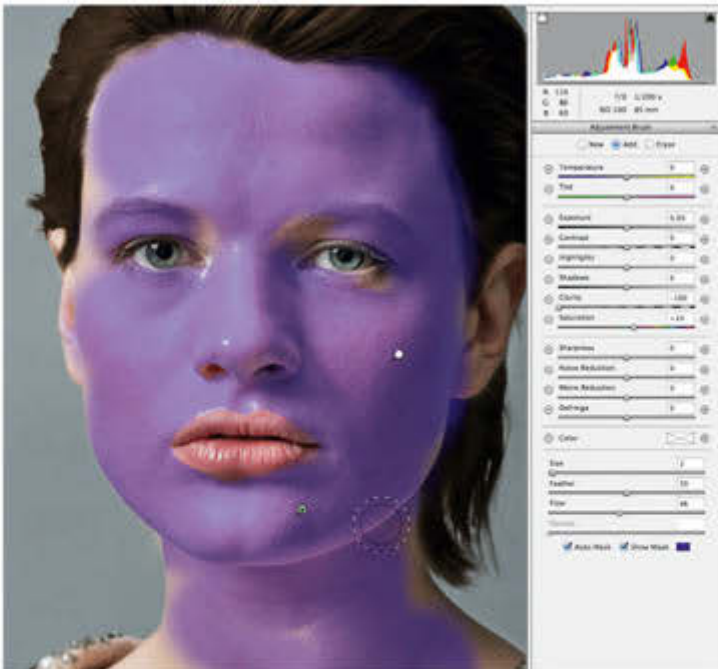
5 Soften the edges

Thanks to the Auto Mask option, you'll notice sharp edges where the dyed hair overlaps the background. To soften these edges, click New in the Adjustment Brush panel. Click the Color swatch and drop the Color Picker's Saturation slider to 0. Set the Sharpness slider to -70. Click to place a pin at the edge of the hair, and paint around the edges to soften any sharp sections where the hair overlaps the background.



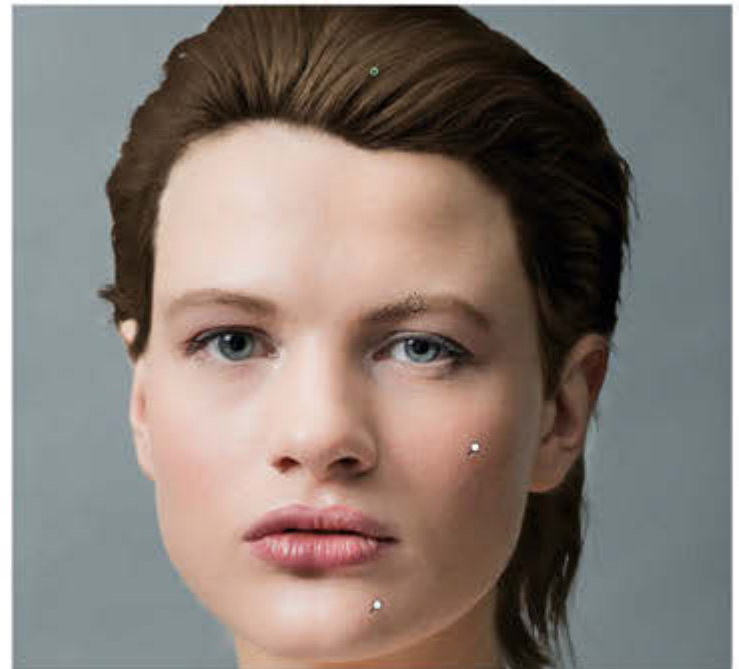
6 Remove the stray hairs

Some single blonde hairs will be tricky to dye brown, especially if they overlap the face or background. To remove traces of the original blonde hair, grab the Spot Removal tool. In the Spot Removal panel, set Type to Heal. Set Feather to 83. Magnify the image to 50% and set the Spot Removal tool's Size to 4. Paint over unwanted strands of hair to replace them with appropriate skin or background pixels. Click unwanted spots to remove them.



7 Smooth the skin

Click back on the Adjustment Brush icon in the toolbar. By default it will be set to new in the Adjustment Brush panel. Drop the Clarity slider to -100. Tick the Auto Mask button. Click to place a pin on her face. Paint over the skin to create a smoother complexion. Because you're using the Auto Mask option, the brush shouldn't soften contrasting areas such as eyes and lips. Tick Show Mask to see which areas are being smoothed.



8 Add the finishing touches

Use the Zoom tool to magnify the shot at 33%. Click the pin that controls the hair dye. The sliders and colour will change back to the brunette dye settings. Reduce the Density slider to 18 for a more subtle effect. Make sure that Auto mask is ticked. Reduce the tip size to 3. Paint over the eyebrows to dye them a subtler brown. Lighten the dye colour by setting Exposure to -2.70. Push Shadows to +50. Set Saturation to -85. ■

Double process a raw file

Process a raw file twice to reveal details throughout the image



When shooting a high-contrast scene it can be a battle to capture detail in both the shadows and the highlights. If you expose to capture highlight detail in the sky then backlit objects can appear as silhouettes. If you meter to capture the darker details then you might clip the highlights. You could try exposing for the sky and illuminating foreground objects with a blast of flash, but this can cause lighter closer objects such as our starting image's stalks of wheat to become blown-out too.

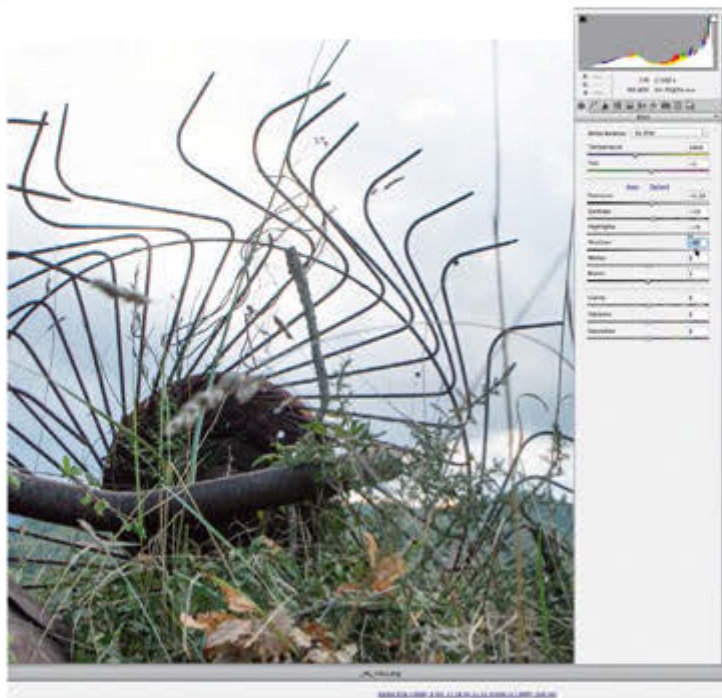
By shooting in raw we know that there is more tonal and colour information stored with the image than we can see when viewing the unprocessed photo. We can claw back missing highlight information with the Camera Raw Highlight slider while lightening the darker details with the Shadow slider. However, in some cases these selective tone-tweaking sliders might not be enough. We may need to claw back even more tonal and colour detail by making a global Exposure adjustment. This can cause us to lose detail in the shadows or the highlights. If the sky and the landscape are separate, then the Graduated Filter is the perfect tool to recover missing highlight detail or selectively brighten a dark landscape. However in shots such as our starting image, the darker foreground object overlaps the sky, making it harder to make a graduated tonal adjustments.

In this tutorial we'll show you how to create two versions of a high-contrast scene. One version will expose for the highlights and the other for the shadows. We'll then take the two versions into Photoshop and use layer masks to combine the correctly exposed parts of the image.

BEFORE

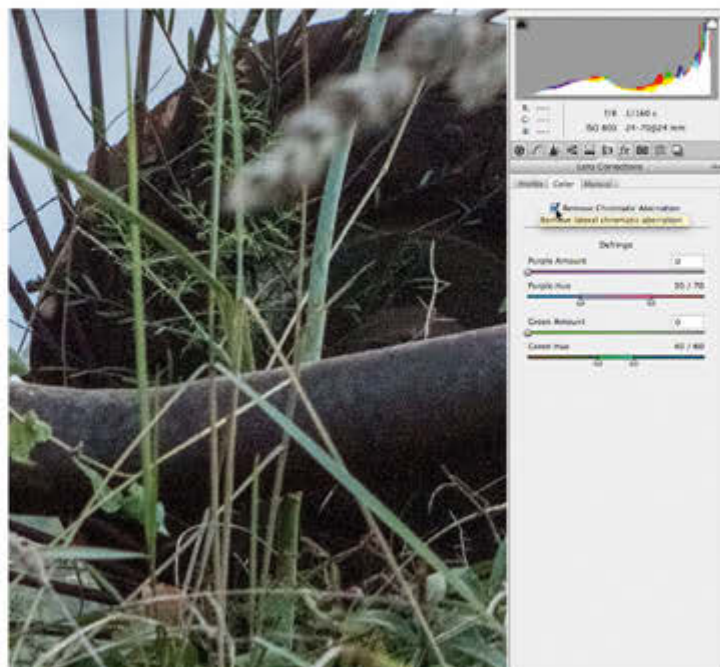






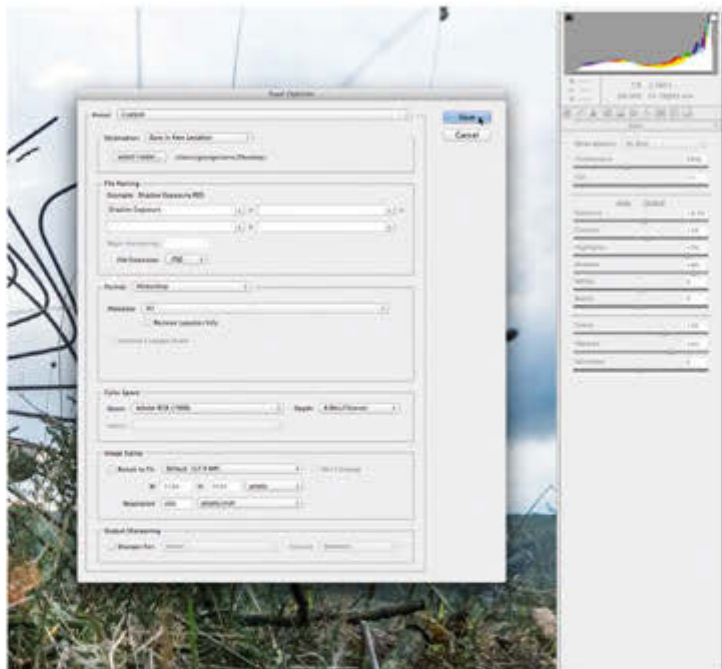
1 Reveal shadow detail

Start by revealing colour and detail in the silhouetted farm machinery. Drag the Shadows slider up to +80 to reveal more shadow detail. To brighten up the foreground even more, increase Exposure to +0.30. As we're exposing for the shadows we don't need to worry about highlight detail. In fact, push Highlights to +70 and Contrast to +10 to make them brighter. This will help us select and replace the highlights with a correctly exposed version later.



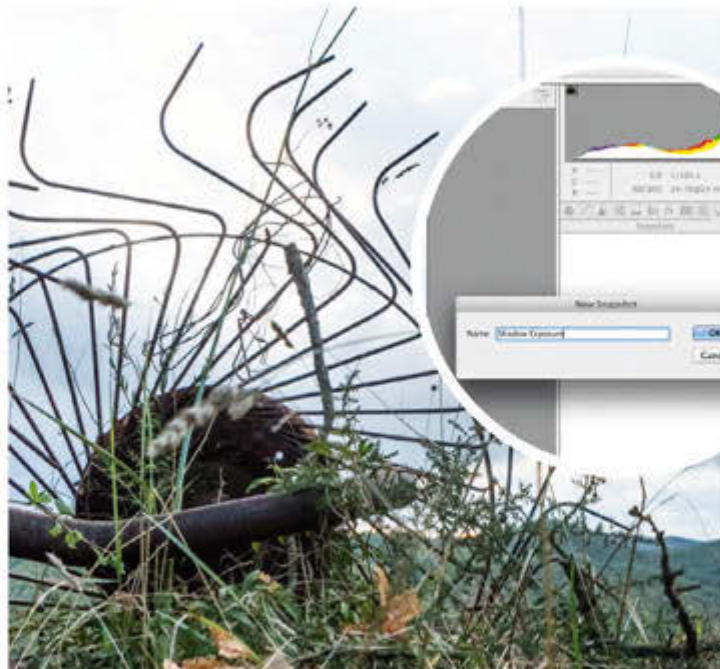
2 Remove the colour artefacts

When you brighten up under-exposed shadows you'll reveal more colour and detail. If you zoom into 100% magnification you'll notice that you've also revealed colour noise and chromatic aberration – purple colour fringes clinging to the edge of contrasting objects. Click the Lens Corrections panel. Tick Enable Lens Profile Correction. Click the Color tab and tick Remove Chromatic Aberration. Go to the Detail panel and drag Color to 100 to remove colour noise.



3 Save the shadow exposure

While you're accessing the Detail tab, drag the Luminance noise slider to 17 to smooth out the noise caused by our starting image's ISO800 speed. When you brighten up dark areas, the newly revealed colours will look rather drab. Set the Vibrance slider to +45 to reveal more colour information. Set Clarity to +35 to reveal fine details. Click Save Image. Name the image 'Shadow Exposure.' Save it as a Photoshop format file.



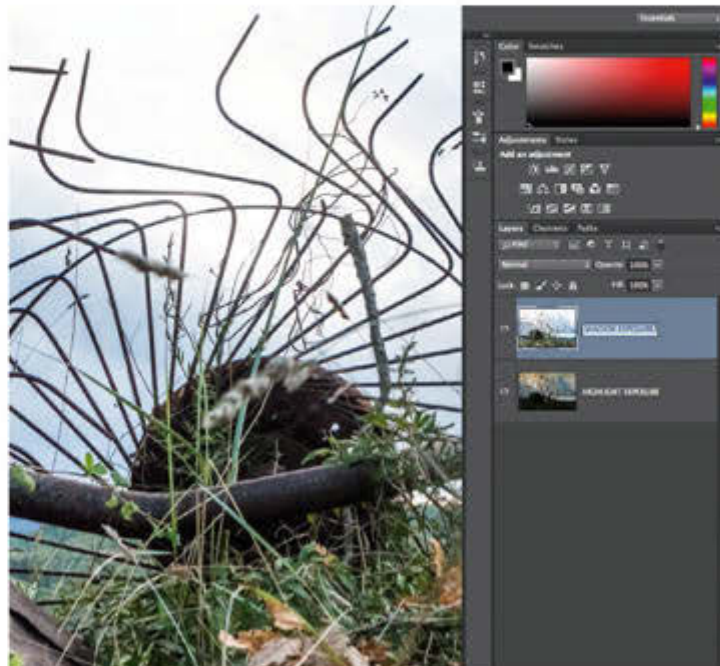
4 Save a snapshot

Go to the Snapshots panel. Click the New Snapshot icon. Label it 'Shadow Exposure'. Click OK. This enables you to summon the shadow settings if you need to tweak them later. Go to the Basic panel and click the Default button. This sets the Basic panel's tone-tweaking sliders to 0. Leave the Lens Correction and Noise Reduction settings as they are. You're now ready to create a version of the scene that features detail in the brighter sky.



5 Reveal sky detail

Set Exposure to -0.65 to darken the sky. Drop Highlights to -46 to claw back more detail. Drag Temperature right to 7250 to enhance the warm sunset colours. Grab the Graduated Filter. Draw a gradient down from the top of the frame. Set Exposure to -1.10 to darken the top of the sky even more and add drama. Boost Temperature and Saturation to +30 for even warmer colours. Save a version of the image called 'Highlight Exposure'. Click Done.



6 Layer the images

In Photoshop, go to File>Open and browse to your Highlight Exposure.PSD and Shadow Exposure.PSD files. Shift click to select them and click Open. Click the Shadow Exposure document's tab and choose Select>All. Choose Edit>Copy. Click the Highlight Exposure document's tab and choose Edit>Paste. You now have a layered document. Label the top layer 'Shadow Exposure'. Label the bottom layer 'Highlight Exposure'.



7 Refine the edges

Click to target the top layer. Grab the Magic Wand. Untick Contiguous so that you can select similar sections of sky. Increase Tolerance to 45 to select a wider range of highlights. Click to select the sky. If some of the darker sky tones remain unselected, hold Shift and click to add them to the selection marquee. Choose Select>Inverse. Click Refine Edge. Set View to On Layers. Tick Smart Radius. Set Radius to 2.7. Set Output to New Layer with Layer mask.



8 Tidy up the mask

The mask's black sections hide the over-exposed sky on the top layer, revealing the correctly exposed sky from the layer below. Grab the Brush tool. Choose a soft-edged tip. Click the mask. Set the foreground colour to black. Paint over any holes in the darker stalks that overlap the sky to reveal missing detail from the lower layer. Set the foreground colour to white. Paint over any holes in the foreground to reveal missing shadow details from the top layer. ■





Advanced tips & tricks

Save time and effort with our little-known Camera Raw image-processing workflow shortcuts

170 Share your processed raw files
Discover how to ensure that the processed raw files you wish to share are accessible by anyone using any software

172 Process JPEGs in Camera Raw
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Share your processed images

Discover how to ensure that the processed raw files you wish to share are accessible by anyone using any software

Once you've spent time processing your raw files in the Camera Raw editor, you'll need to save and share them. There are many different raw format files that you can edit in Camera Raw, from Nikon's NEF format to Canon's CR2. If you edit one of these formats using any of the Camera Raw tools and then click Done, a sidecar file will be created and

stored alongside the edited raw image. This XMP format file contains a record of every tool and slider setting that you applied to the raw image. If you share the raw file, then you need to include the XMP file too if others are to see and access the changes that you've made. Different raw formats (and raw files from newer cameras) can be harder to access in older versions of Photoshop, which is why

it makes sense to save your processed files in Adobe's Digital Negative (DNG) format. This embeds the Camera Raw adjustments inside a single DNG file, so you can share it without worrying about sidecar files. Digital Negatives are also easier to open in older versions of Photoshop. We'll show you how to save files in the DNG format and then explore other sharing formats. ■

Photoshop Anatomy Save as a DNG

Store Camera Raw image settings inside your processed raw file



1 SAVE IMAGE

If you want to export your processed raw file as a Digital Negative, click this button here to access the Save Options window.

2 DNG

If you set the File Extension drop-down menu to DNG, the Format drop-down menu will change to Digital Negative.

3 COMPATIBILITY

To open DNG files in older versions of Photoshop, click here. This setting allows our DNG to be compatible with CS6 and Lightroom 4.1 onwards.

4 EMBED DATA

Clicking here enables Camera Raw to open the file more quickly and apply stored adjustments, though it will increase the file size slightly. You can use a smaller Camera Raw cache preference setting if this option is regularly used.

5 LOSSY COMPRESSION

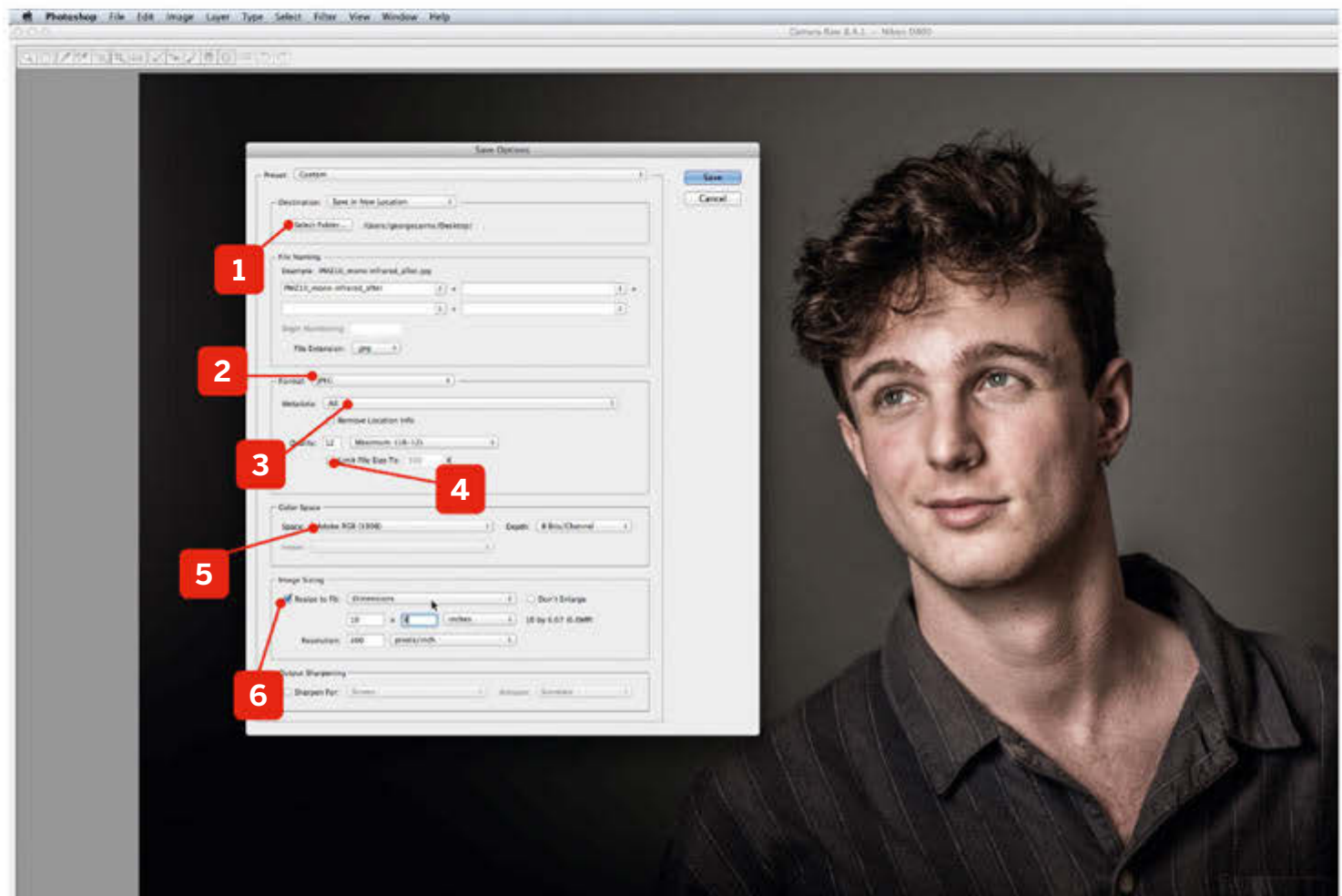
Ticking this option creates lighter DNG files, but you will lose some data and quality. Leave it unticked (or save a copy as a JPEG if you need a smaller version).

6 EMBED ORIGINAL

By ticking this box you can store the unprocessed raw file's data inside your DNG. There's no real need to do this and it'll create a much larger file size.

Overview **Save in other formats**

Store and share copies of your edited work more easily



1 LOCATION

Click Select Folder to choose a location for the saved version of your edited file. You can save it alongside the original raw file or choose a new location.

2 JPEG

To save a lightweight version of your processed picture to share on a web gallery, social media site or email to family and friends, choose JPEG from this drop-down menu.

3 METADATA

All raw files contain data about the camera settings used to capture the image. You can include all of that data (or a more limited selection such as any attached copyright information) by using this drop-down menu, but it won't make any difference to the file size.

4 QUALITY

You can create a smaller faster-to-download file by dropping the quality value – though this can add compression artefacts. If posting a copy to Twitter, you can tick here and choose a File Size limit of 100K.

5 COLOR SPACE

If sharing online, use a screen-friendly colour space such as sRGB. For more faithfully reproduced print colours, set this option to Adobe RGB (1998).

6 RESIZE

If you plan to print a copy of your picture, you can resize it to fit specific print dimensions such as a 10x8-inch print. It's worth ticking the Sharpen for Screen or Glossy Paper option too, depending on the image's destination.

Process JPEGs in Camera Raw

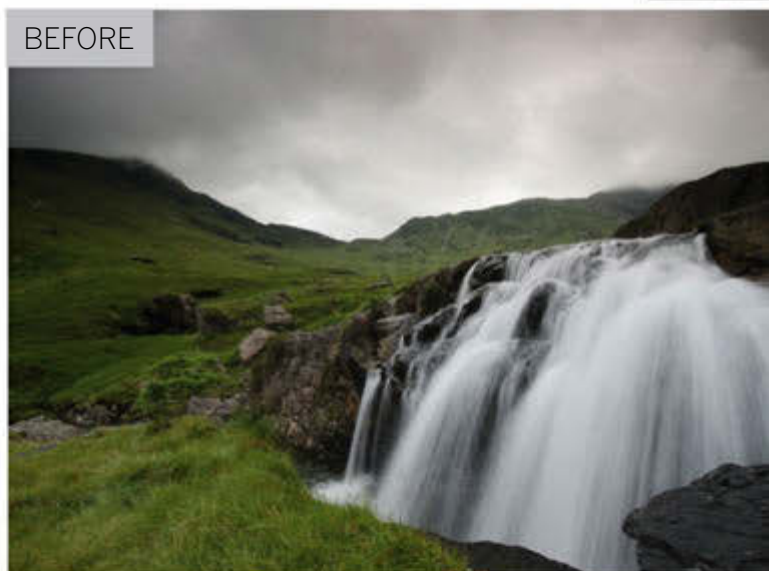
Open and edit your compressed JPEGs as if they were raw files using Camera Raw tools and techniques

Once you've become familiar with the tools that you can access in Camera Raw, you may prefer to edit all of your image formats in this workspace, even compressed JPEGs. Although JPEGs lack the extra information about colour and tone stored in a raw file, Camera Raw still enables you to correct typical photo problems quickly and easily. Colour- and tone-tweaking tools are close to hand in the Basic panel. You can also summon a handy before-and-after view.

By default a JPEG will open in Photoshop, but if you go to Camera Raw and click the Preferences icon you can go to the JPEG and TIFF Handling section of the Preferences window and set the JPEG drop-down menu to Automatically open all supported JPEGs. Click OK. Now when you open a JPEG from within Photoshop, it will be taken straight to Camera Raw.

Alternatively, you may prefer to start working on your JPEGs in Photoshop and then take them into Camera Raw to apply specific effects. The Camera Raw Filter enables you to open your edited JPEG in Camera Raw so that you can access tools that aren't in the Photoshop workspace, such as the Split Toning tab and the Clarity slider.

BEFORE



1 Access Camera Raw Filter

In Photoshop, go to File>Open and browse to select our PMZ38_raw filter.jpg starting image. Click Open. By default, the image will open in Photoshop (unless you've changed the Camera Raw preferences). To take the shot into Camera Raw, choose Filter>Camera Raw Filter.



2 Clipping and Clarity

The histogram demonstrates that our shot lacks strong highlights, so drag Highlights to +39. The highlight clipping warning helps you avoid blowing out the highlights more effectively than the tools in Photoshop. Increase Clarity to +36 to increase midtone contrast.



3 Selective contrast boost

Once you've tweaked the tones to create a stronger contrast, you can be more creative. Click the HSL/Grayscale panel and tick the Convert to Grayscale box. Push the Green and Yellow sliders to the right to lighten the vegetation and make it contrast with the darker rocks.



4 Add extra effects

The JPEG's compression artefacts are noticeable in the sky. To disguise them and add character to the image, go to the Effects panel. Set Grain Amount to 42 and Size to 43. This is a much easier way to add grain than in Photoshop. Add a vignette to atmospherically darken the edges. Click OK. ■

Open a raw file as a Smart Object

Give yourself more editing options later in the process by converting a raw file into a Smart Object

One bonus of editing in Camera Raw is the fact that it's a non-destructive editing process. Any changes that you make using sliders or tools can easily be reverted to the original settings that you captured in the camera. A raw file's non-destructive status means you can't make any permanent mistakes and lose original file data, so you're free to experiment with different looks. When you click Done, the changes will be stored alongside your edited raw file (or inside it if it's you save it as a DNG format file). You can then open the edited image at any time in the future and fine-tune it, or reset it to its original unedited state.

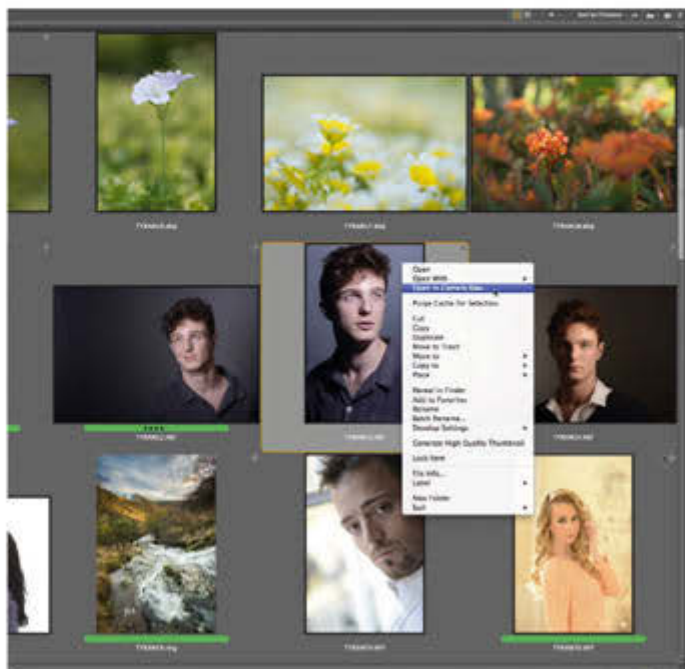
However, once you've done all you can using the tools and sliders in Camera Raw, you may want to take the processed picture into Photoshop to continue editing its look with filters, or add text perhaps. By leaving Camera Raw, you lose access to its non-destructive editing abilities. You also lose access to the extra colour and tonal information stored in the raw file.

By opening your edited raw file as a Smart Object, you can continue enjoying the non-destructive power of the raw format, and access valuable information, even after you've started to edit the image in Photoshop. A Smart Object is a separate file that stores all the information about the original image, so you can edit in Photoshop and then pop back to the Camera Raw file to tweak its sliders. You can then continue editing the fine-tuned file in Photoshop. Here's a Smart Object workflow...

BEFORE

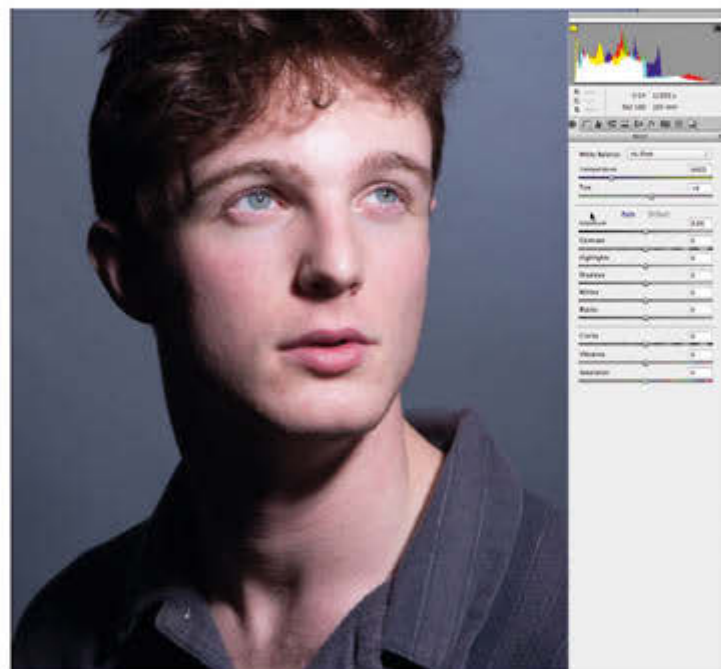






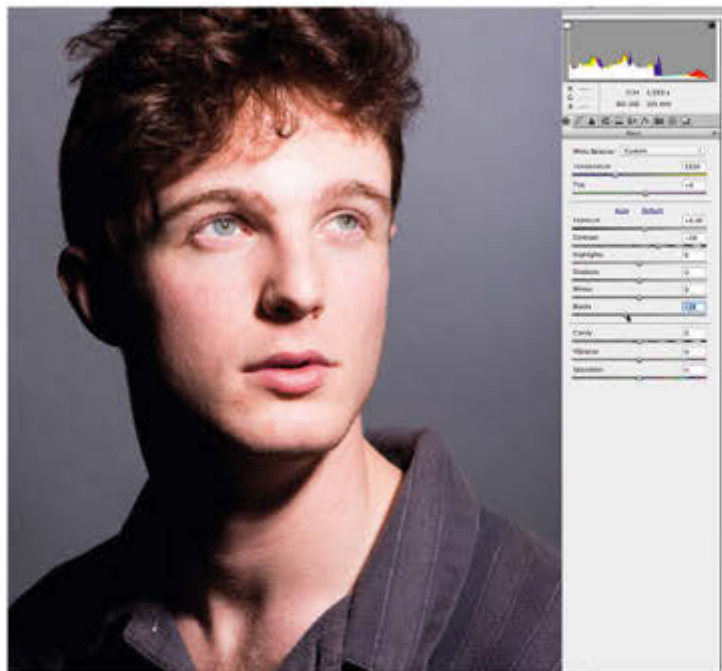
1 Open the raw file

If you prefer to start your workflow from Bridge, select the supplied raw file's thumbnail and choose File>Open in Camera Raw (or summon the same pop-up menu option by right clicking the thumbnail). If you prefer to start from within Photoshop, then you can choose File>Open As Smart Object. This will take the photo into Camera Raw too. Bridge users can convert the edited raw file into a Smart Object later, as we'll demonstrate in this walkthrough.



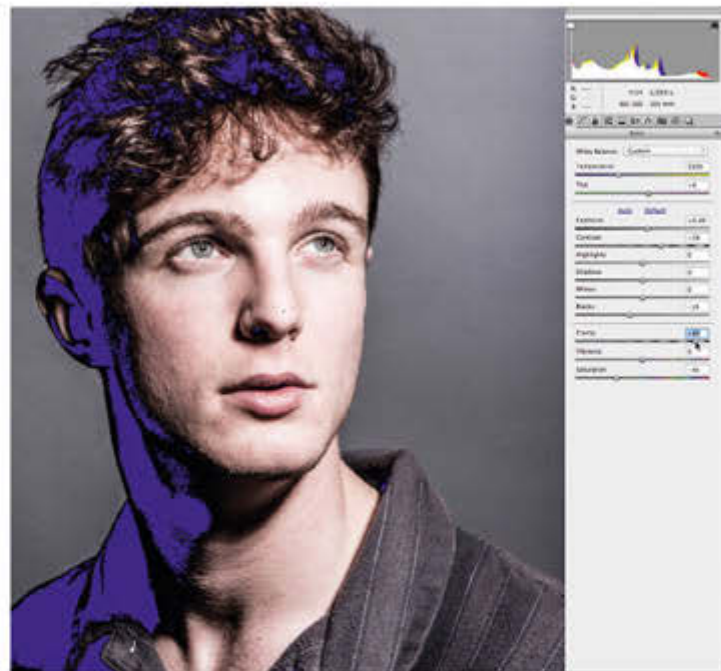
2 Process the picture

However you decide to open your image into Camera Raw, you can process it using the following steps. We'll use Camera Raw to emulate the subdued warm colours and the contrasting tones of the Hollywood-style bleach-bypass film-processing technique and then add a background bokeh to the portrait in Photoshop. We'll then show you how to take advantage of the Smart Object format to go back into Camera Raw.



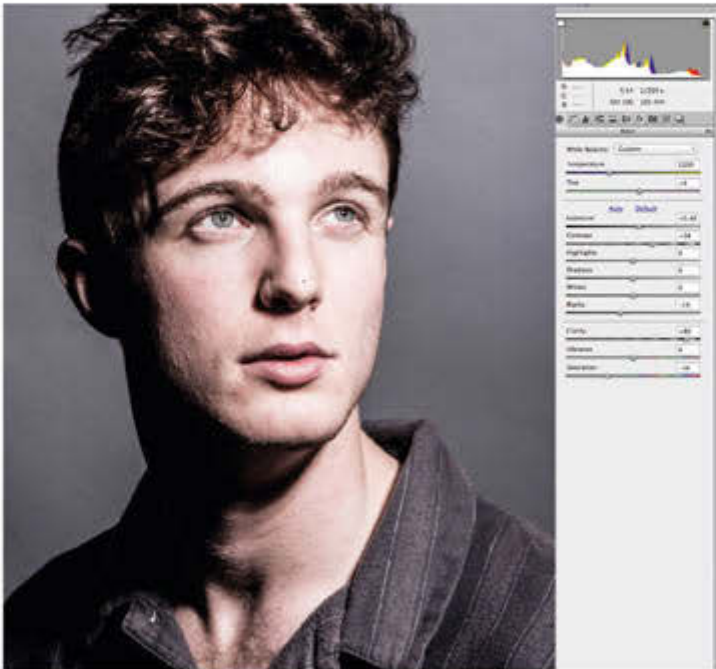
3 Increase the contrast

Warm up this cold shot by dragging the Temperature slider to 5200. This setting also removes the starting image's blue colour cast. Drop Exposure to -0.40. For a more dramatic contrast between shadows and highlights, drag the Contrast slider right to +28. To create the clipped shadows produced by the bleach-bypass process, drag the Blacks slider left to -19. We now have a more high-contrast look.



4 Tweak the colours

You can double check that you have the characteristic clipped shadows produced by the bleach-bypass process by pressing U to turn on the Shadow Clipping warning. Clipped shadows will appear as patches of blue. To create the desaturated colours that are also associated with this look, drag Saturation down to -43. Boost Clarity up to +82 to increase the midtone contrast and give details more punch.



5 Open it as a Smart Object

We'll now take the processed raw file into Photoshop and blur the background. If you chose to use Photoshop to open the raw file as a Smart Object, then click the OK button at the bottom left of Camera Raw. If you opened the DNG as normal, then you won't see an OK button. Instead, hold down Shift and the Open Image button will change to Open Object. Click the button to take the raw file into Photoshop.

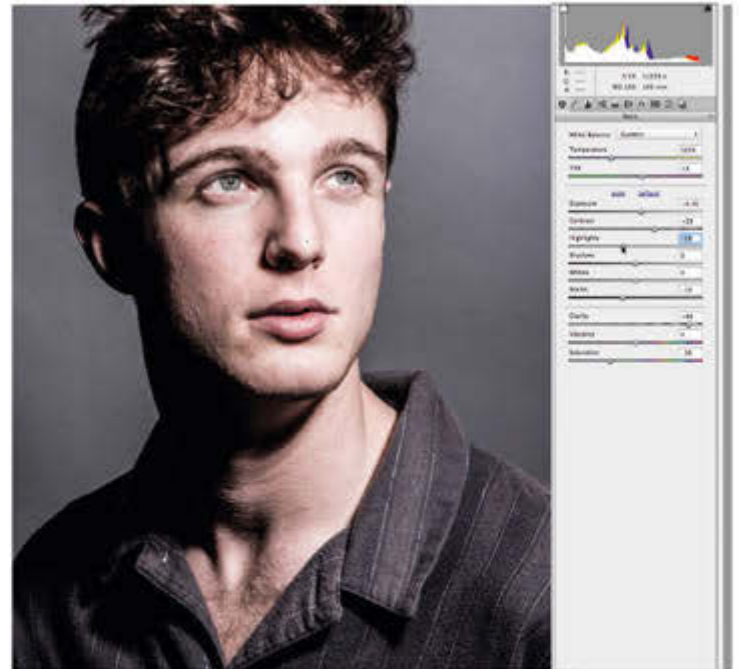
6 Embedded Smart Object

Your processed raw file will open in Photoshop, giving you access to all the extra tools and filters that are unavailable in Camera Raw. Look in the Layers panel. You'll see a little icon in the corner of the preview thumbnail that indicates the layer's status as a Smart Object. We'll use this status later on to fine-tune the file in Camera Raw after we've processed it a bit more in Photoshop.



7 Add a bokeh effect

Click the Smart Object layer's thumbnail to target it. Go to Filter>Blur Gallery>Iris Blur. Set the Blur slider to 52 to blur the area outside the subject's face. Drag the blur pin's position, edges and control points to fine-tune which areas are blurred and which remain sharp. Increase the Blur Effects Light Bokeh slider until the highlights in the blurred parts of the image begin to flare. Click OK to apply the filter.



8 Back and forth

By double clicking the Smart Object layer you can go back into Camera Raw and claw back more highlight detail from the original raw file. Click OK to go back into Photoshop. Because you're working with a Smart Object, you can double click the Smart Filter's Blur gallery label and fine-tune the blur settings too. Thanks to Smart Objects, you can change any edited attribute in both Camera Raw or Photoshop. ■

Save time with custom raw presets

Create and apply image-processing presets in Adobe Camera Raw and Adobe Bridge to save time and effort later

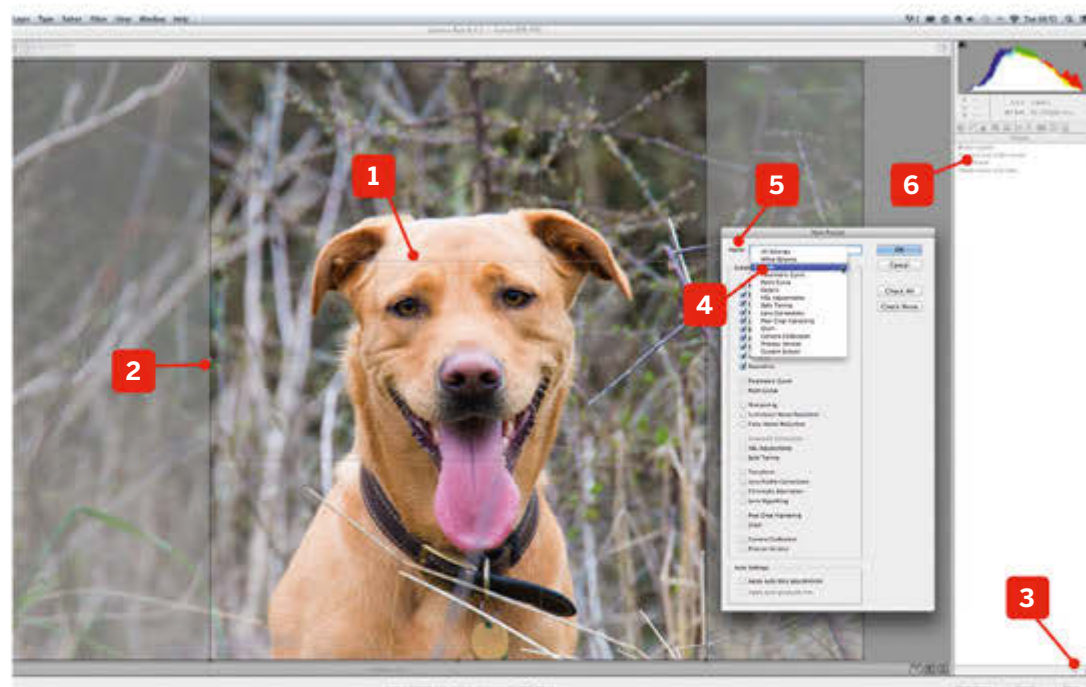
You'll probably spend lots of time correcting common problems in Camera Raw over and over again. Under-exposed photos will need to be brightened up and have their colour saturation boosted. Over-exposed images will need their clipped highlight detail restored. If you use the same camera settings to capture a batch of images on location then they may

all need identical corrections in Camera Raw. Applying these corrections to each photo is unnecessarily time-consuming. After fixing a photo that's representative of the problems in the batch, you can record the position of the various Camera Raw sliders as a preset and then apply the look that they produce to the other photos with a click. As well as typical photo-fixing presets, you can store a range of

creative ones. This enables you to quickly experiment by applying special effects to your raw files, for example. Once you've created a collection of photo-fixing presets in Camera Raw, you can apply them to single shots or groups of images from Bridge, without needing to open Camera Raw. Check out our annotations to discover how to create and apply these time-saving presets. ■

Photoshop Anatomy Create a preset

Record slider settings and apply them with a click



1 ADJUST THE IMAGE

We boosted the Basic panel's Contrast slider to +18, increased Vibrance to +62 and cooled down the Temperature to 4300.

2 CROP

We cropped the shot to create a portrait-oriented image. The preset won't store the composition change, just the colour and tonal adjustments.

3 NEW PRESET

After making adjustments, click here to save them as a one-click preset. The New Preset window will appear.

4 SETTINGS

By default all the settings will be ticked. You can choose to save some settings but not others. Click to select a subset such as the Basic sliders.

5 NAME

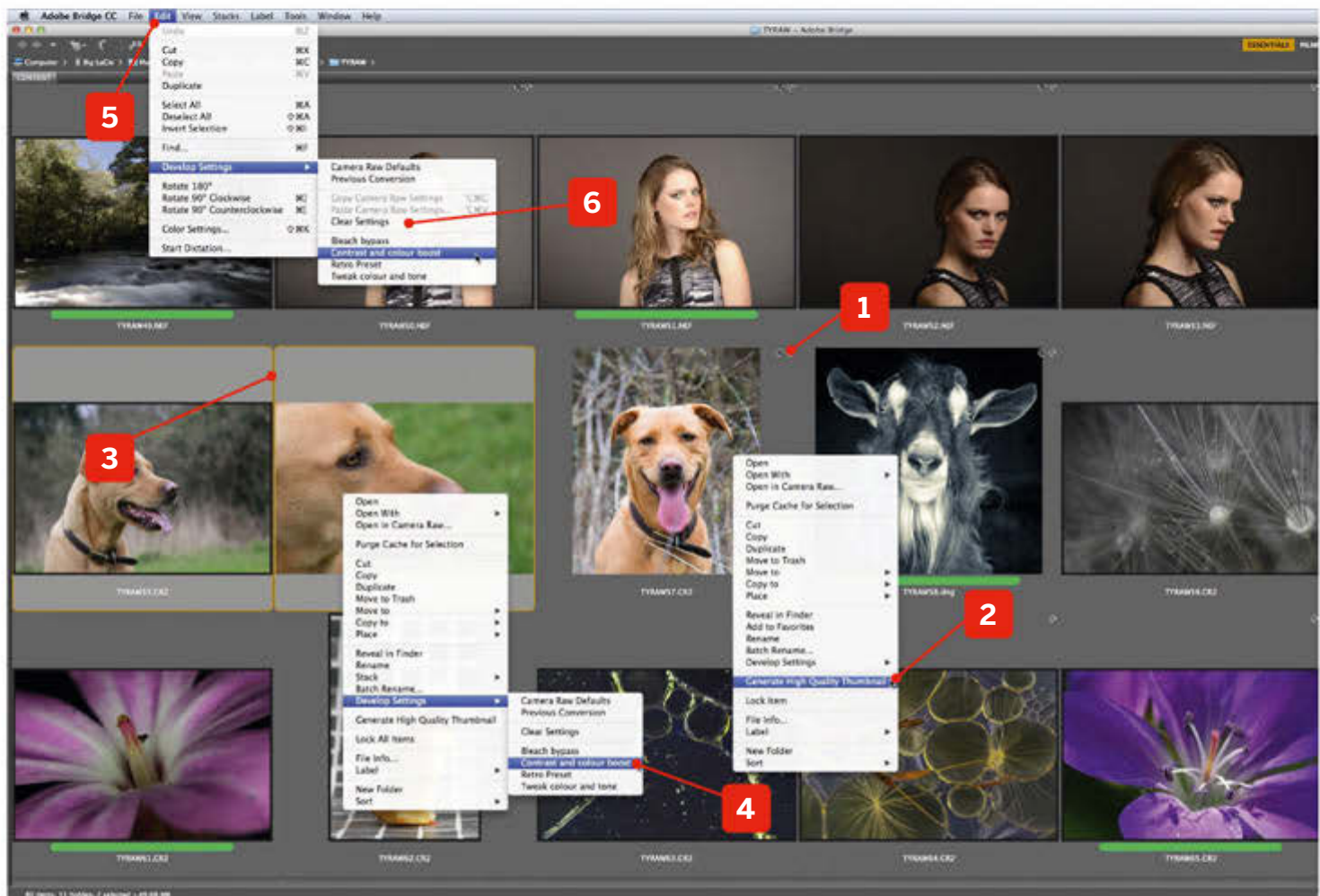
Give your preset a descriptive name (such as 'Contrast and colour boost') so that you can easily identify and apply it to other images in Bridge or Camera Raw. Click OK to save the preset.

6 PRESETS PANEL

Any presets that you create will appear here. To apply a preset's stored adjustments to a raw file, click its label. You can also click the fly-out icon on the right of the panel and choose Apply Preset.

Overview **Apply presets in Bridge**

Edit colours and tones to a batch of files with a click



1 STORED ADJUSTMENTS

This icon indicates that the raw image's colours and tones have been adjusted. We can also see that the shot has been cropped.

2 UPDATE THUMBNAIL

After making changes to a photo in camera Raw and clicking Done, right click the thumbnail and choose Generate High Quality Thumbnail. The thumbnail will update to show the colour, tonal and composition changes.

3 SELECT MULTIPLE

Here we have other photos captured in the same location as the edited image. To tweak their colours and tones using a preset, you first need to Shift click to select them.

4 BATCH PROCESS

After selecting a thumbnail (or multiple thumbnails), right click one of them and choose Develop Settings. Here you can access and apply any presets that you created in Camera Raw.

5 DEVELOP SETTINGS

You can also access and apply the Develop Settings menu to the selected thumbnails by clicking here.

6 REMOVE PRESETS

You can restore a file to its original preset-free look by clicking Clear Settings. It now reverts to its original state.

Correct distortions with a lens profile

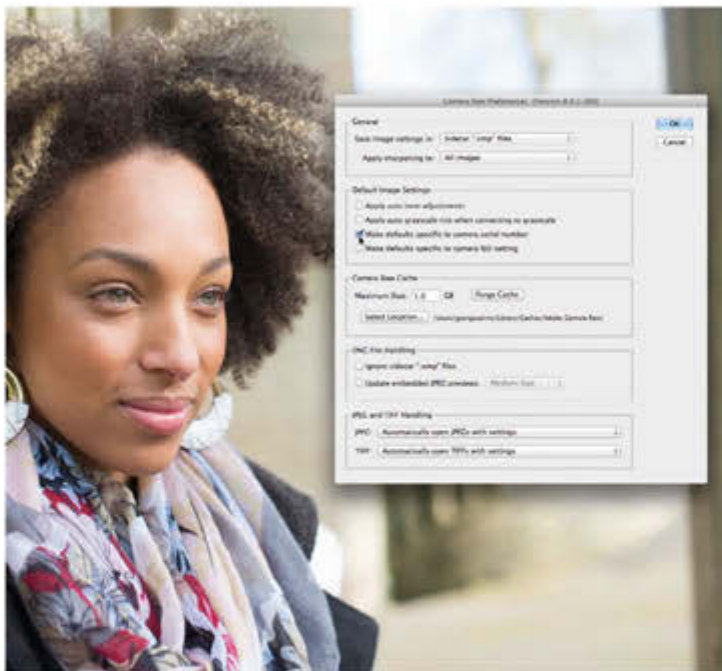
Discover how to get Camera Raw to make lens profile corrections to your photos automatically

Camera lenses can add geometric distortion to an image, especially when shooting at a wide angle. The edges of the frame might also be vignetted, causing them to contain darker colours and tones than the rest of the scene. Fortunately, Camera Raw has a handy Lens Correction panel that contains a Profile tab that can counteract these lens-induced distortions. By default, Camera Raw doesn't automatically apply lens profile corrections to

your raw files, so you need to manually click two tabs and then click a box. In this walkthrough we'll demonstrate how to change the Camera Raw default settings so that it automatically applies lens corrections using an appropriate profile. We'll also demonstrate how to make Camera Raw automatically apply a lens-profile correction to files produced by one camera, but leave another camera's raw files uncorrected. Read on to find out how...

METADATA

After opening a raw file in Camera Raw, click Open Image to take the photo into Photoshop. Go to File>File Info. In the Camera Data tab you can see what lens and camera body were used to capture the photo. The Profile tab in Camera Raw uses the raw file's metadata to discover which camera and lens were used to take the photo. Click OK and close the image without saving it.

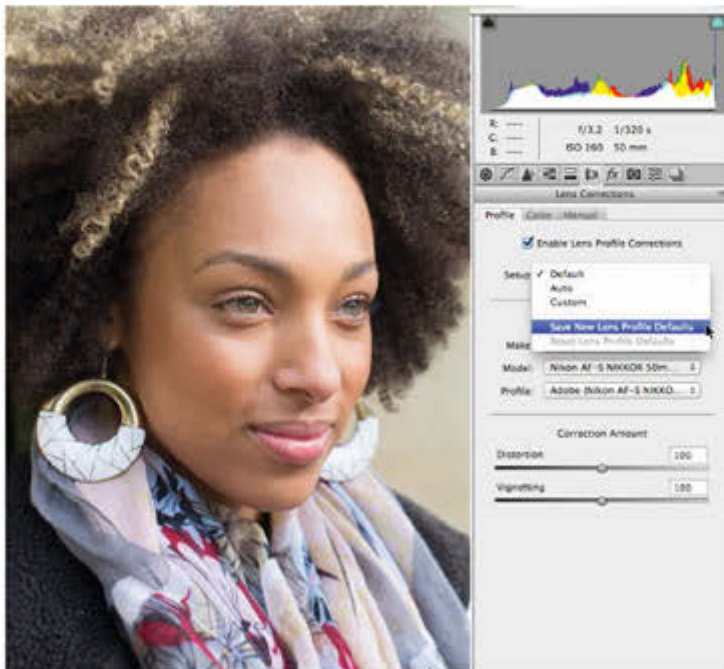


1 Open the image

Open a raw file. In this example our raw image was produced by a Nikon D800 camera. Click the Open Preferences dialog button in the Camera Raw toolbar. In Default Image Settings, Tick the Make defaults specific to camera serial number box. Click Done. Now any custom default settings that we create (including those using a lens profile) will automatically be applied to other images that were taken on our Nikon D800 camera.

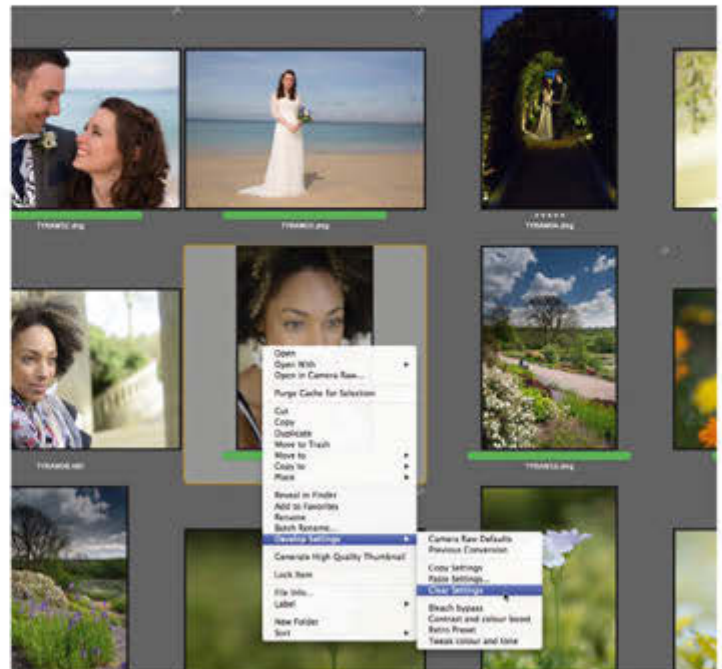
2 Choose a lens profile

Click the Lens Corrections panel. Click the Profile tab. Tick Enable Lens Profile Corrections. If the lens profile doesn't appear automatically, choose an appropriate lens manufacturer (in this instance Nikon) from the Make drop-down menu. The lens model and a suitable lens profile will appear. Any image distortion and vignetting will automatically be counteracted without the need to manually adjust any sliders.



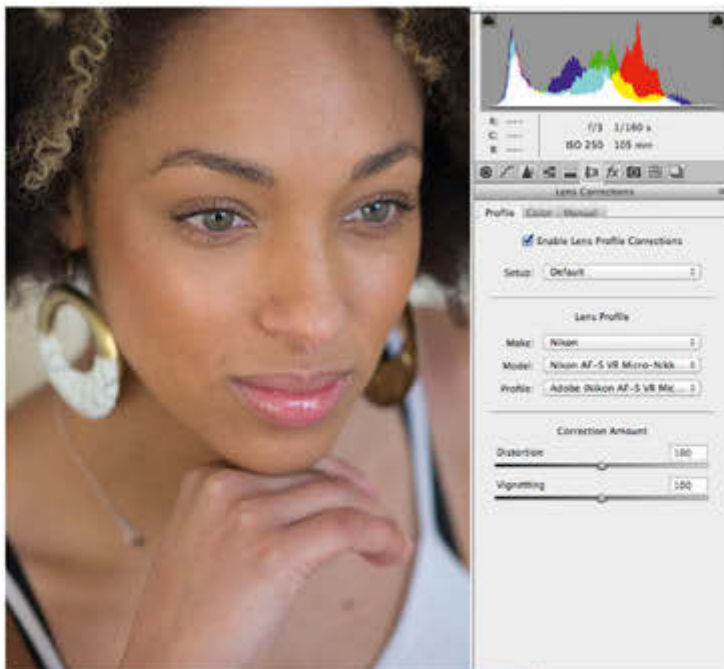
3 Save the new default

Go to the Set Up drop-down menu in the Profile tab and click Save New Lens Profile Defaults. Click the little fly-out icon on the right of the panel and choose Save New Camera Raw defaults. Click the little fly-out icon at the top right of the Lens Corrections panel and choose Save New Camera Raw defaults. Click Done. Thanks to this new default setting, a lens profile will automatically be applied to any unprocessed Nikon D800 raw files we open in Camera Raw.



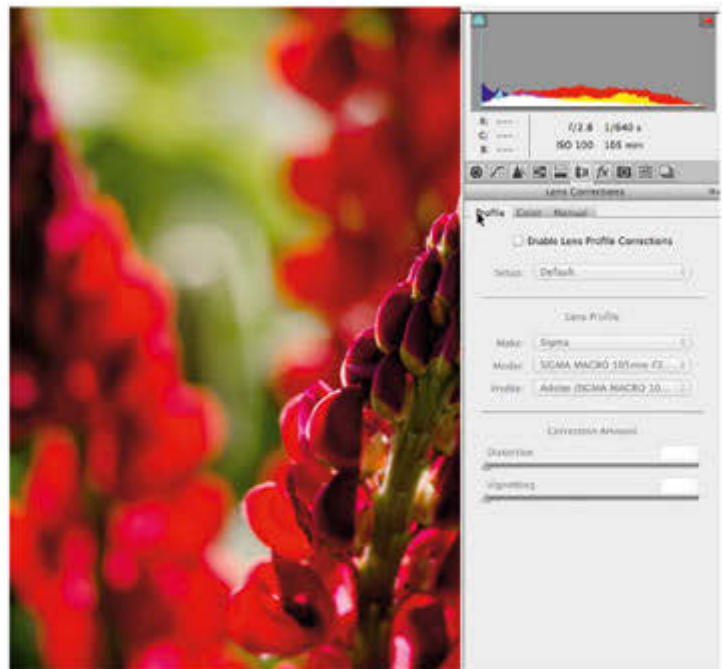
4 Clear the adjustments

Before we test the new lens profile default on another Nikon D800 file, browse to the photo we've just edited in Bridge and right click its thumbnail. Choose Develop Settings > Clear Settings from the pop-up menu. This resets the file to its original unprocessed state and clears out any associated XMP file that might override the Camera Raw defaults that we've just set up.



5 Test the correction

Click the thumbnail and choose File > Open in Camera Raw. You may instantly notice the change, but to check that the lens profile corrections have been applied to our Nikon D800 image by default, go to the Lens Corrections panel and click the Lens Profile tab. The Enable Lens Profile Corrections box should already be ticked, thanks to our camera-specific default settings. Click Done to close the corrected image.



6 Camera-specific corrections

If you own another camera (such as a Canon), you may not want lens profile corrections to be applied by default. Open an unprocessed CR2 file and make sure that the Enable Lens Profile Corrections box is unticked. Choose Save New Camera Raw Defaults from the fly-out menu. Click Done. Now, when you open a Nikon D800 file, the profile corrections will be applied, but when you open a Canon shot, the box will be unticked. ■





Raw editing in Lightroom

Lightroom isn't just an alternative to Photoshop. It's a new way of working that combines cataloguing and raw editing

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Locate, rate and keyword images, and apply quick photo fixes with this organisation module

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196 Make better prints in Lightroom
Discover how to make perfect prints of your photographs using Lightroom's Print module

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Prints, Facebook and Flickr aren't the only way to share your photos with others – Lightroom has three more



GET THE FILES HERE: http://bit.ly/PMZ38_ACR

Master Lightroom

Lightroom isn't just an alternative to Photoshop. It's a whole new way of working that combines image cataloguing, raw file conversion and non-destructive editing



Imagine a fusion of Adobe Bridge, Adobe Camera Raw and Photoshop. A place where you can organise your photos, search for images and create themed Collections, web albums and slideshows.

Lightroom also incorporates the non-destructive editing tools of Adobe Camera Raw (ACR), including dynamic range/tonal adjustments, curves, sophisticated colour controls, localised adjustments and

more. But these tools are organised into a simpler, more efficient and streamlined user interface — and they work on JPEGs and TIFFs, too, so that all your file formats are integrated into the same workflow. The key point about Lightroom is that all your adjustments are non-destructive and stored within the Lightroom Catalog. You can apply a colour adjustment to an image, for example, and come back weeks later to change it — the sliders will be

exactly where you left them. Lightroom also supports Photoshop 'round-tripping'. You can open an image in Photoshop from within Lightroom, make your changes and save the image, and the edited version will appear alongside the original in your Lightroom Catalog. Lightroom isn't a Photoshop replacement, then, rather it's a complementary aid. And over the next 16 pages we're going to give you a glimpse of what it can do...



The interface

There's a lot going on in the Lightroom interface. Here's our compact rundown...

01 Navigator

When you zoom in on an image, this displays a zoom marquee which you can drag around to examine different parts of the image. This, and all the other panels, has a disclosure arrow to expand or collapse it to make room for others.

02 Catalog

Use this to display all your photos, view the last batch of imported images, or access Lightroom's Quick Collection – just click a shot and tap C to add it to the Quick Collection. Images selected in this way can then be added to a permanent Collection if required.

03 Folders

This panel displays your images in the locations where they're actually stored on your hard disk or external drive. It's useful for basic organisation and housekeeping, whereas Collections are best for specific projects and themes.

04 Collections

These are the equivalent of albums in other image cataloguing programs. They're 'virtual' collections of images which are stored in many different folders. A single image can be added to many different Collections.

05 Publish services

You can publish photos directly to popular online services like Facebook and Flickr, as well as Adobe's own subscription-based Revel services. Other services, such as SmugMug, are supported by downloadable plug-ins.

06 Smart Collections

These use search criteria to display matching images automatically. For example, you might create a Smart Collection to display images taken with a specific camera or lens, or of a particular subject. You don't add images manually – Lightroom finds them automatically.

07 Toolbar

This has buttons for changing the viewing mode between Grid (thumbnail), Loupe, Compare and Survey views. You can choose additional buttons, too, for adding star ratings, rotating images, changing the sort order and much more.

08 Image display area

This displays thumbnails in the Library module and the image you're working on in the Develop module. It's the active screen area for the work you do in Lightroom. In the Library module, double click an image to view it and click again to zoom in.

09 Filter Bar

You can configure Lightroom to display images with specific ratings, keywords, labels and even more information. Custom filters can then be saved and accessed again in future via the drop-down menu on the right.

10 Library module

This is where you import images, browse, create Collections and Smart Collections, and use the Filter Bar to search for and display images. View images as thumbnails in Grid view, as seen here, individually in Loupe view, or sort them using Compare and Survey views.

11 Develop module

When you select an image in the Library module and switch to the Develop module, you can use Lightroom's image-editing tools. Your adjustments are non-destructive, and can be undone and re-done at any time.

12 Map module

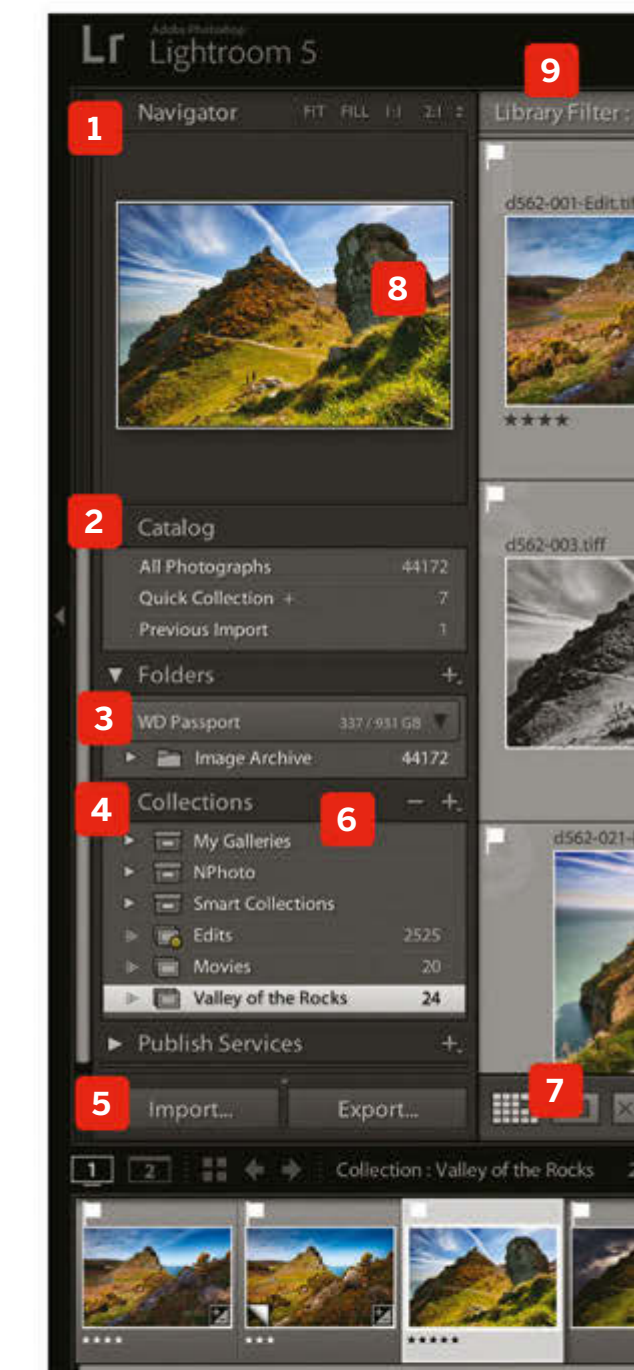
Lightroom can display the location of photos with geotagging as map pins, but you can assign untagged images to locations manually by finding a location with the search box then assigning co-ordinates to an image.

13 Web module

Use this to create ready-made web galleries. A number of customisable templates are available. Lightroom can even upload them automatically, though you'll have to choose your own web host and enter the FTP details.

14 Tools panel

Tools change according to the module in use. In the Library module they include a Histogram, Quick Develop tools and Metadata. Click the arrow at the right edge to display the panel permanently or make it fly out on demand.



15 Print module

Lightroom enables you to print single images, contact sheets or 'picture packages'. It displays a preview of how the images will print with a selected page size and orientation, and includes Colour Management options and Print Sharpening for specific paper types.

16 Slideshow module

Use this to design slide shows to run on your PC or Mac, or to export



as videos to share online. You can choose how images are cropped to fit the screen, and what information you want to have displayed alongside the images.

17 Book module

This works in conjunction with online photo books specialist Blurb Books. Instead of using an external application or a web browser, you can design and order books directly within Lightroom. It's ideal for personal projects and jobs for clients, and it's dead easy to use.

18 Sync Settings

All the adjustments you make to images in Lightroom are non-destructive and can be copied to other images. You hold down Ctrl and click additional images, then press this button – Lightroom prompts you to confirm the settings you want to copy.

19 Filmstrip

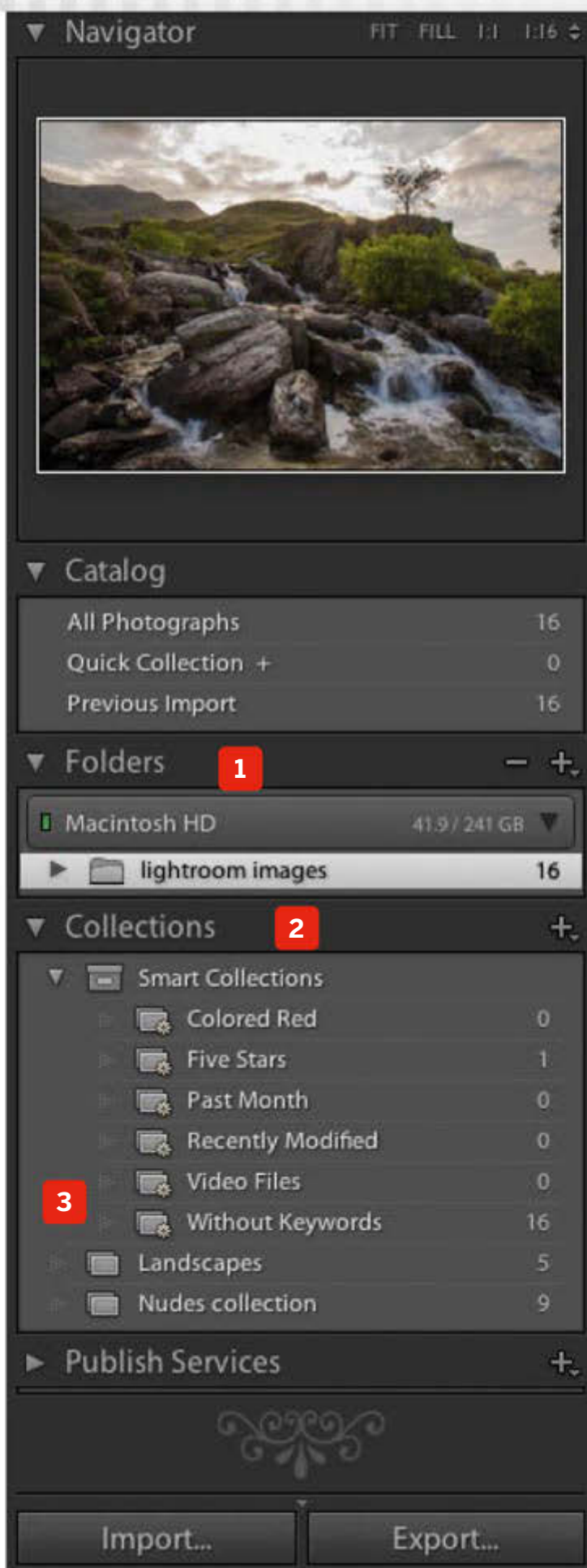
This is particularly useful if you want to view or compare individual images in the main window.

20 Sync Metadata

If you've added keywords, copyright information or captions, you can hold down Ctrl and click additional images and use this to apply the same information to them.

21 Filter/navigation controls

Use these to filter photos in a filmstrip by flag status, rating or any criteria already set up in the Filter Bar. This is brilliant for finding particular images.

GET THE FILES HERE: http://bit.ly/PMZ38_ACR

The Library module

Here's a closer look at the key panels and controls in this key Lightroom component

A large part of Lightroom's job is keeping your images organised. This becomes a progressively greater challenge as your image library grows in size, and the number of different ways you want to use your pictures increases, too. It uses industry-standard 'metadata' embedded in your images to help, consisting of keywords, captions, copyright information and more. But it also offers quick-access Flags, Ratings and Labels and an interactive Filter Bar to help you quickly find and isolate the pictures you're looking for.

1 Folders

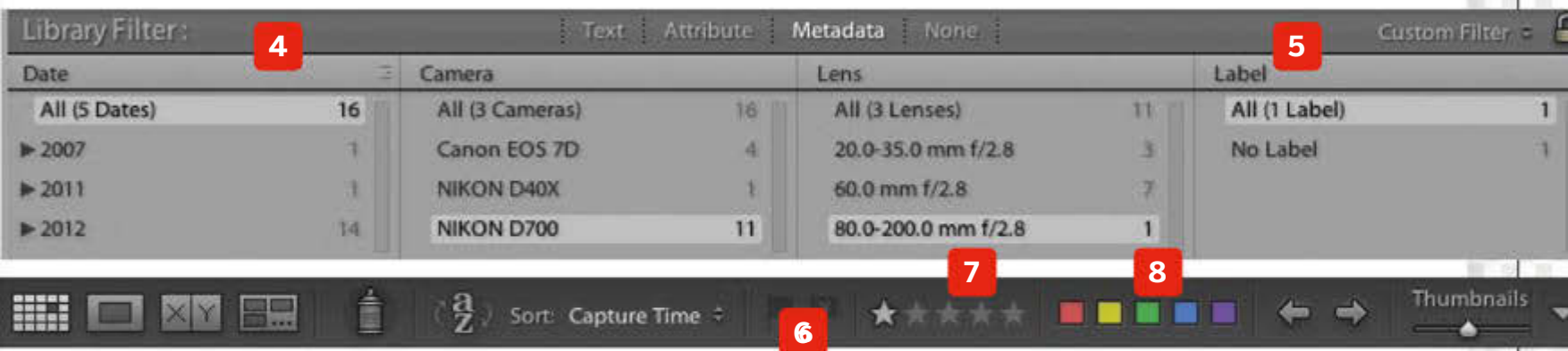
This is where Lightroom displays the real location of your photos on your computer or your external drive. If you move photos and folders here, you move them on your computer. It's important to realise, though, that if you move them on your computer instead, Lightroom won't be able to find them any more and you'll have to manually relocate them within Lightroom and re-establish the connection. You can use Folders as your main organisational tool, though many photographers prefer to use Collections and Collection Sets instead.

2 Smart Collections

Smart Collections can be created and stored alongside regular Collections, but they're a very different thing. You should think of them as 'saved searches' instead. Imagine you want to find all pictures taken on a Nikon D700 containing the keyword 'snow' and taken in the Alps in 2011. This is quite a long-winded set of search criteria you wouldn't want to have to

TETHERED SHOOTING

Normally, you'd shoot pictures with your camera and then transfer them to your computer and then import them into Lightroom. Certain D-SLRs, though, can be used 'tethered'. You connect the camera to the computer and then control it from within Lightroom. This can be useful when you're shooting in a studio with a fixed setup and want to be able to control the camera remotely. Lightroom does not display a live image while you shoot, but it does enable you to instantly view the photo you've taken when Lightroom imports it.



type in twice, but if you use a Smart Collection instead, your search is saved permanently among your other Collections. The key thing to know about Smart Collections is that you can't add or remove pictures manually – they're chosen according to their properties, so the only way to control what appears is to change the properties (keywords, for example) of the picture.

3 Collections & Collection Sets

These are like 'virtual' folders. They're completely independent of the folders on your computer. You can create Collections for images you want to use as a portfolio, photos to show a client or as a way of bringing together pictures that share a common theme. Deleting a photo from a Collection doesn't delete the photo, only that particular reference to it, and you can add the same photo to many different collections – but it's still the same photo, not a copy. So if you apply any adjustments or effects to a photo, these will show up in all the Collections where the photo appears. Collection Sets are simply folders to help you organise your Collections. You can nest them one within another, just like nesting folders on your computer.

4 Filter Bar

The Filter Bar appears at the top of the main window in Develop module, and it has drop-down menus to help you filter the

contents of your Collections or Folders according to the image keywords, captions, location (if you use the Map tools) and more. It has four buttons: Text, Attribute, Metadata and None. You can use the Text panel to carry out a simple free-form search for text such as keywords and captions, for example. The Attribute panel offers quick and simple visual filtering tools including Flags, Ratings and Labels, while the Metadata panel takes a more structured approach to searches, displaying drop-down menus which enable you to select and combine criteria like the date, the camera model, ISO setting, the lens used and more. The fourth, 'None' button on the Filter Bar simply removes all search criteria.

5 Filter Presets

The drop-down menu on the far right of the Filter Bar displays a list of default filter presets, which you might find useful. For example, the Exposure Info preset displays the Metadata panel with the menus set up to display camera shooting information. But you can also save your own Filter Bar settings by first setting them up manually and then using the Save Current Settings as New Preset command near the bottom of the presets menu. These presets essentially do the same thing as Smart Collections, but they are best reserved for common wide-ranging filter options because space on this menu is limited – use Smart Collections instead when your search is specific.

6 Flags

Flags are a very quick way of picking out the images you want to be able to see all the time, your best images and those you don't want to keep seeing but that you don't want to delete either. You can set the Flag status using the badge displayed on image thumbnails in the Develop module's Grid view (depending on your viewing options) – clicking the badge toggles it between Unflagged and Flagged. Or you can use the keyboard shortcuts, and this is probably quicker. X rejects an image, P flags an image (think 'P' for 'Pick') and U unflags an image. You can then use the Attribute panel on the Filter Bar to quickly filter your photos to show only Flagged or Flagged and Unflagged photos, for example.

7 Ratings

This is another way of identifying your best photos, and it enables you to sort your photos by rating, so that you see your best images first. You can also use the tools in the Attribute panel to filter your photos by rating. You just click on the number of stars – for example, clicking on three stars displays photos with a rating of three stars or above. You could use this alongside Flags, but it's more likely that you'd choose one or the other. Ratings are also displayed below the image thumbnails in Grid view (depending on your view settings), and you can set the star rating here, too.

PUBLISH SERVICES

You can upload pictures to Facebook and Flickr directly from within Lightroom. Adobe Revel is also supported, but this is a subscription-based service. Let's say you want to upload a Collection to Flickr – first, you need to click the Setup button, and go through an authorisation process to link Lightroom to your Flickr account. Once you've done that, you can create new Photosets of images within this Flickr section which Lightroom will upload for you.



Lightroom's Metadata panels

Lightroom's metadata panels are the engine room of its professional search tools

Lightroom uses the industry standard IPTC system for tagging photos with keywords, captions, descriptions and more as 'metadata' – or data embedded invisibly in the image but available to programs like Lightroom, and newspaper picture editors, for example. It can also display the EXIF (shooting information) data embedded by your camera in every shot it takes.

1 Keywording

Keywords are at the heart of any serious image cataloguing system. They're words or short phrases which are embedded in the photo and used later to help locate specific images. You can use this panel to type in any keyword or keywords you like with one or more images selected. Lightroom will look for similar

keywords you've already used as you type, to help avoid duplication and save time. It will also display recently-used keywords you can apply with a single click, and user-defined Keyword Sets which you use often.

2 Keyword List

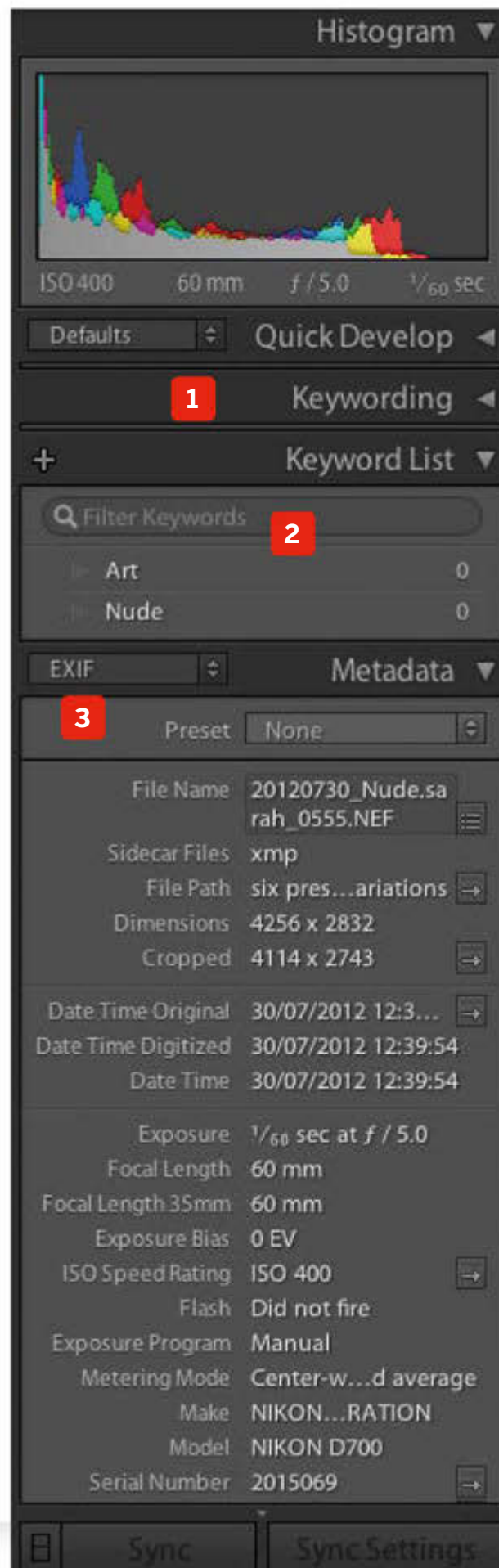
You use this panel for large-scale keyword organisation and editing. It shows all the keywords that you've used in alphabetical order, and it also allows you to organise them hierarchically. To the right, Lightroom shows how many images have that keyword, and you can select a keyword and click the right-facing arrow to show them. To the left of the keyword name is a checkbox – you check or uncheck this to add or remove a keyword from a selected image or images.

3 Metadata

This panel can display both the camera shooting (EXIF) data and other IPTC metadata fields, and you choose what you want to see using the pop-up menu on the panel's title bar. For example, if you select Minimal, the panel displays just the File Name, the Rating, any Caption that you've added and a Copyright message – for example, your name.

METADATA PRESETS

These appear in a pop-up menu directly below the Metadata panel title bar. A preset can apply several metadata panels at once. For example, you could create a preset to change the Copyright Status to 'Copyrighted' and the Copyright to your name at the same time.



Quick Develop

Learn how to speed up your workflow by getting to grips with the Quick Develop tools

1 White Balance

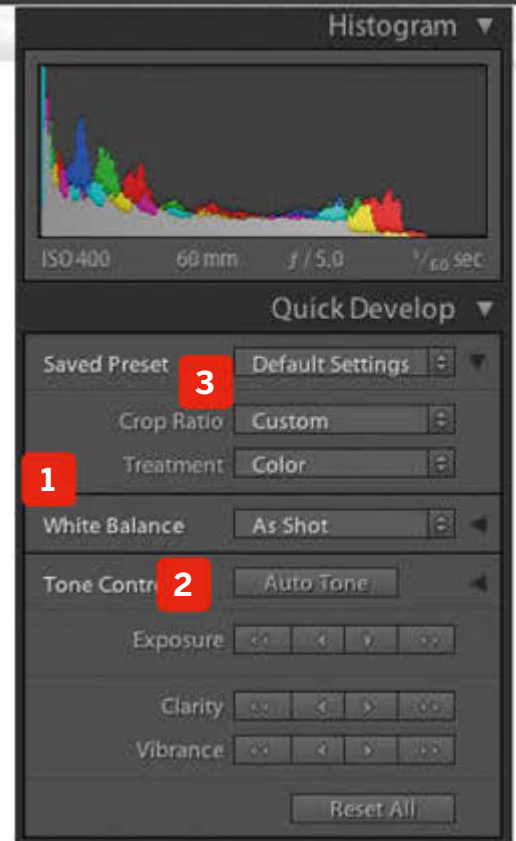
Choose As Shot to use the settings embedded by the camera, or choose one of Lightroom's presets from the menu. (RAW files only). You can also adjust the Temperature and Tint values manually.

2 Tone Control

Use Auto Tone or adjust the settings manually. Single-arrow buttons make small adjustments, double-arrow buttons make large ones. Note the Reset All button at the bottom.

3 Saved Preset

Use this menu to choose one of Lightroom's preset Develop effects – they're the same as the ones in the full Develop module, organised into groups. You can also change the Crop Ratio to suit different screen or paper sizes.



Aged Photo

This reduces the saturation, applies a warm tint and makes adjustments to the tonal controls to achieve a 'retro' look for the image.



Bleach Bypass

Creates a high-contrast, cold, under-saturated and high-definition look that could be good for urban landscapes or male portraits.



Cross Process 1-3

Simulates the effect of processing film in the 'wrong' chemicals and produces varying colour shifts according to which one is chosen.



Direct Positive

Produces a high-contrast, high-saturation look reminiscent of low-speed transparency films, and can give colour shots extra impact.



B&W Look 1-5

Delivers an instant black-and-white conversion in five different styles – you can try them all to find the look that you want.



B&W Sepia Tone

The classic black-and-white toned effect, but delivered with more subtlety and control than the sepia 'effects' in other programs.

The Develop module

The Develop module is where serious image-editing happens...



The tools in the Develop module are broadly the same as those in Adobe Camera Raw, but the layout is completely different. Lightroom works with JPEG and TIFF files, too, treating them just the same as raw files – though you need to shoot raw to take full advantage of the highlight and shadow recovery tools.

All adjustments that you make in Lightroom are non-destructive and can be returned to even after you've moved on to another image or quit and restarted Lightroom. You never 'save' your adjustments – they're stored 'live' as you make them.

1 Navigator

The Navigator has two uses here: if you move the mouse over a Lightroom preset, it displays a preview of the effect, and you can use it to pan around an image if you're zoomed in.

2 Attributes

As you're working on your photos, you may want to change their attributes to reflect your adjustments, such as their Rating, Flag or Label.

3 Adjustment panels

These are where the serious image-editing work is done. You can use them in any order – there's no specific workflow you have to follow – and you'll find details on each panel opposite.

4 Snapshots

Like Photoshop and Adobe Camera Raw, Lightroom lets you take 'snapshots' of stages in the editing process to return to later. Unlike the others, though, Lightroom stores these indefinitely.

5 History

This panel displays everything you've done to an image from the moment you imported it, and this information is saved indefinitely, or until you click the 'x' (Clear) button.

6 Collections

Lightroom doesn't display Folders in the Develop module, but it does display your Collections – another reason for using Collections as your primary organisational tool.

7 Copy and Paste

Once you've applied a set of adjustments to an image, you can click this Copy button, then select another image and Paste the same set of adjustments on to that one.

8 Before & After

In the Library module, this button is used to compare different images. In the Develop module, you can use it to compare before and after versions of the image you're working on.

9 Filmstrip

There's no Grid view in the Develop module – you have to swap back to the Library module to display images as thumbnails – so the Filmstrip is a handy way to display the contents of the current Collection.

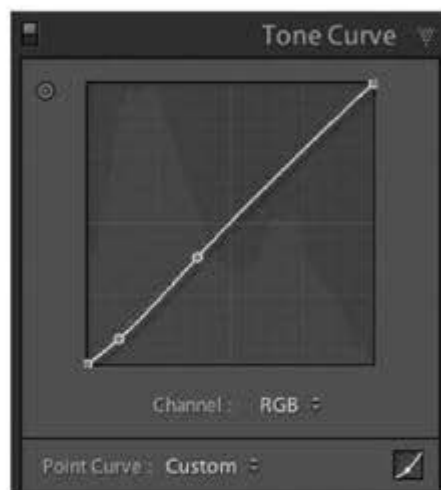
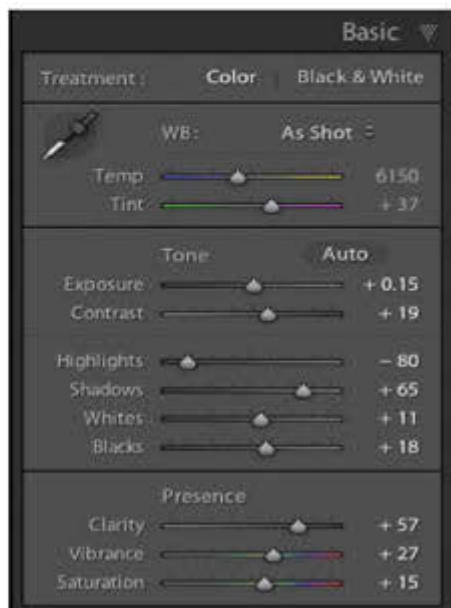
10 Histogram

The histogram is effectively a bar chart, showing how many pixels there are at the different brightness levels in between. The chief thing to check is that the histogram is not cut off abruptly at each end.



1 Basic

These are your everyday tools. They include Lightroom's redesigned Highlights, Shadows, Whites and Blacks sliders for more dynamic range control and a more powerful Clarity slider for adding localised contrast.

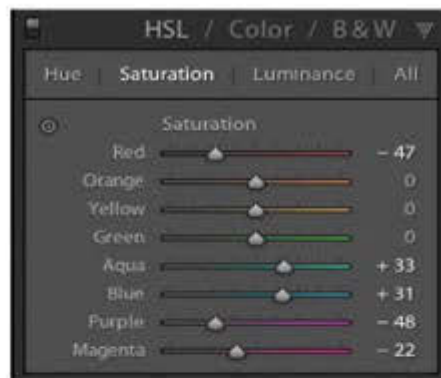


2 Tone curve

This works just like the Curves Panel in Photoshop – you drag on the curve to reshape it and change the contrast properties of the picture. But you can also use the Point Curve gadget to drag up and down directly on parts of the image to darken or lighten those tones.

3 HSL/Color/B&W

HSL lets you adjust Hue, Saturation and Lightness. Colour offers simpler adjustments based on specific colours. The B&W sliders can be used to adjust the colour mix when converting colour images to black and white.



4 Detail

Lightroom's Sharpening tools include an Amount slider, Radius, Detail and Masking adjustments for maximum control, while the Noise Reduction sliders allow you to minimise both Colour and Luminance noise.



5 Lens Corrections

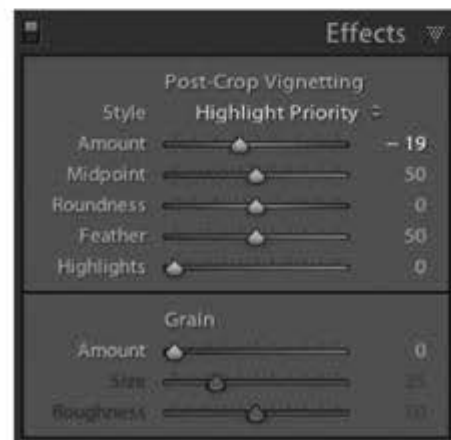
Lightroom can correct distortion and vignetting automatically in a larger number of lenses, or you can apply corrections manually.

Lightroom 5 brings new 'Upright' tools for automatically correcting vertical and horizontal keystone.



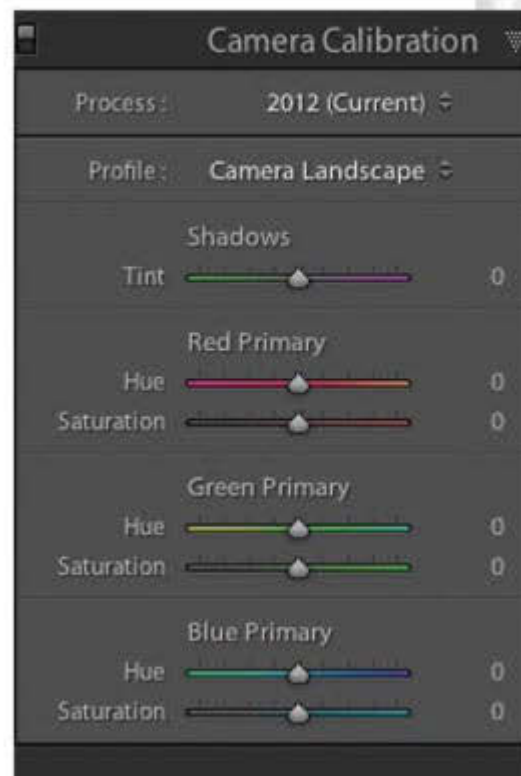
6 Effects

Post Crop Vignetting tools can create a vignette effect on images after they've been cropped (hence the name), while Grain sliders can replicate the look of old-fashioned films.



7 Camera Calibration

Lightroom applies Adobe's own generic interpretation for the colour and tonal rendition of raw files, but you can choose from a range of different camera-specific profiles to get much closer to the camera's own colour rendition.



Selective adjustments

Did you know you could make selective adjustments in Lightroom?

You'll find the selective adjustment tools just below the Histogram panel, and they consist of a Crop tool, Spot Removal tool, Red Eye Correction tool and – most interesting of all – a Graduated Filter tool and Adjustment Brush tool. Between them, these tools go a long way towards closing the gap between Lightroom and Photoshop. You can't layer

images in Lightroom – you'll still need to export them to Photoshop for that – but you can fix minor blemishes and also apply localised adjustments.

Lightroom's Spot Removal tool is especially effective, and after you've used the Graduated Filter tool a few times on your landscapes, you'll never want to be without it again. These tools are also available in Adobe

Camera Raw, but here in Lightroom they're much more streamlined. The other thing we've not mentioned yet is Lightroom's 'Virtual Copies'. These are ideal for trying out different treatments on the same image without physically saving a new version to your hard disk. Lightroom simply creates a duplicate record of the same image and displays it alongside the original.



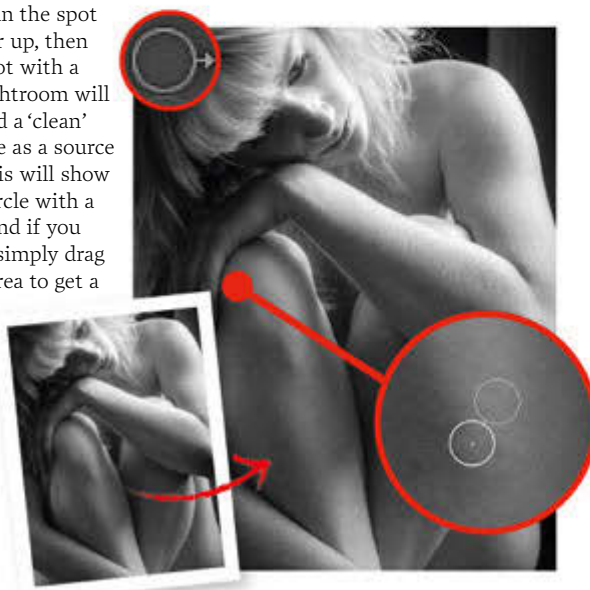
1 Crop tool

When you click on the Crop tool, a series of Crop and Straighten settings open out beneath. You can use the Angle slider to straighten your shots, but it's not very precise, you'll get better results with the Angle gadget – you drag out a line on the image corresponding to a horizontal or vertical edge that should be straight. Use the 'Constrain to Warp' box if you've applied Lens Corrections. You can also straighten images by rotating the Crop marquee – just move the mouse pointer outside any corner or edge control point. The Aspect menu lets you constrain the crop to a number of common proportions, such as 4x6-inch prints or 16:9 TVs.



2 Spot Removal tool

You can use the Spot Removal tool to cover up sensor spots in digital SLR images, and it's extremely simple to use. First, choose a brush size slightly larger than the spot you want to cover up, then 'dab' away the spot with a single click – Lightroom will automatically find a 'clean' area nearby to use as a source for the repair. This will show up as a second circle with a thicker outline, and if you need to, you can simply drag it to a different area to get a better result. In Spot mode, it matches the source pixels to the destination area, while in Clone mode it preserves the source pixels' tones as it is.



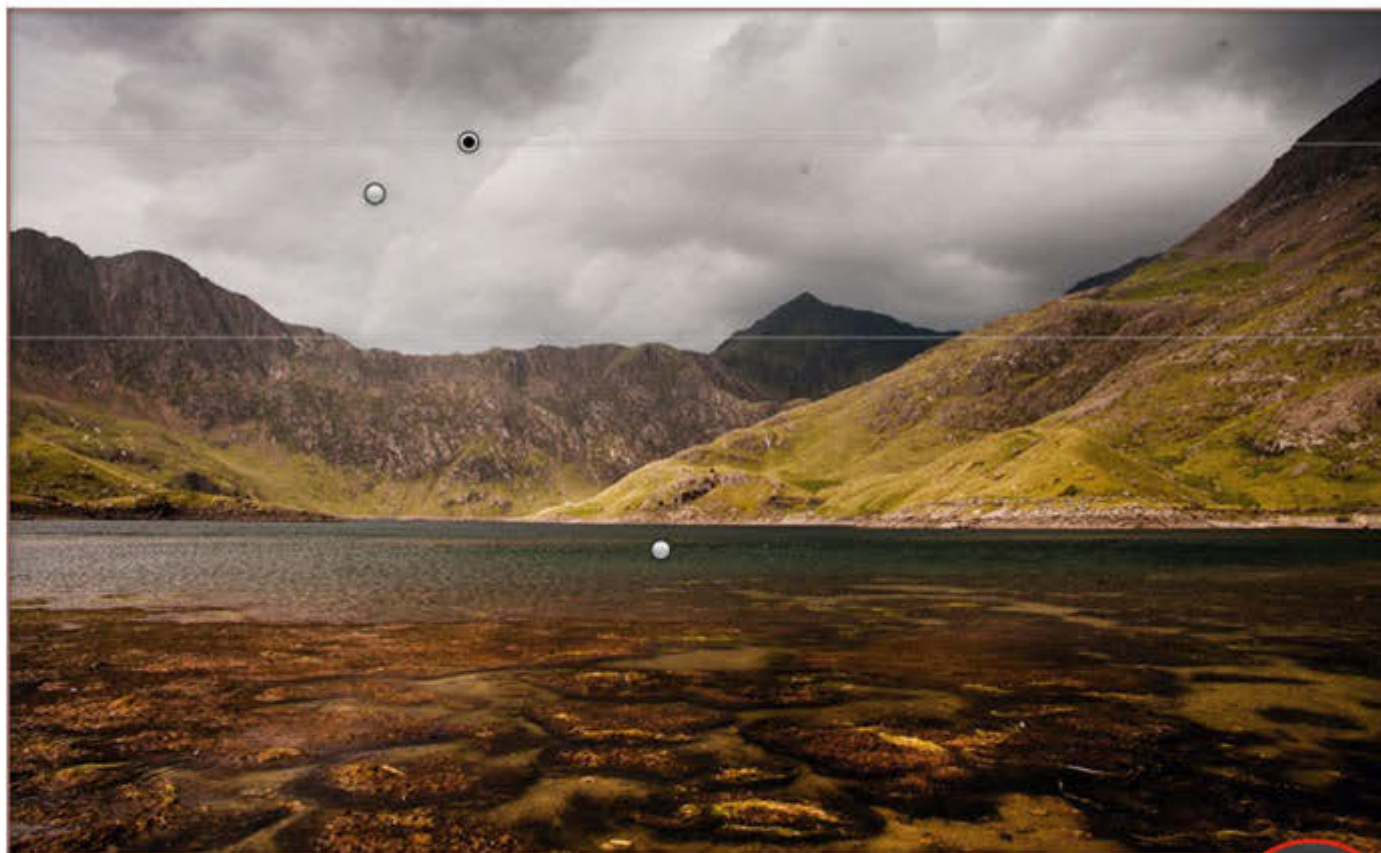
3 Red Eye Correction tool

Red-eye is less common than it used to be, as on-camera flashes now use pre-flash to contract a subjects' irises ahead of the main flash, or distance the flash from the lens with a pop-up mechanism. If you do have red-eye images, it's simple to rectify. If the tool is already set to the right size (use edge markers as a guide), just click on the eye. If not, drag from the eye's centre to adjust size. Lightroom now applies red-eye correction and displays Pupil Size and Darken sliders in case you need to make some further tweaks.



4 Adjustment Brush tool

This offers the same adjustments as the Graduated Filter tool, but with additional brush options. Simply select the tool, brush size and start painting. Lightroom places a pin on the image where you start painting, and as you continue to paint over different areas, it adds to the adjustment 'mask'. View the mask by moving the mouse pointer over the pin. You can change the adjustment sliders after you've used the brush, but you can't drag the pin to a new position — you must use the Erase and Brush tools to change the area adjusted.



5 Graduated Filter tool

The Graduated Filter tool is most useful for darkening bright skies in landscape shots. With the tool selected, you drag in the direction you want the gradient to be applied. For

a landscape, for example, you'd click-and-drag upwards from the horizon line.

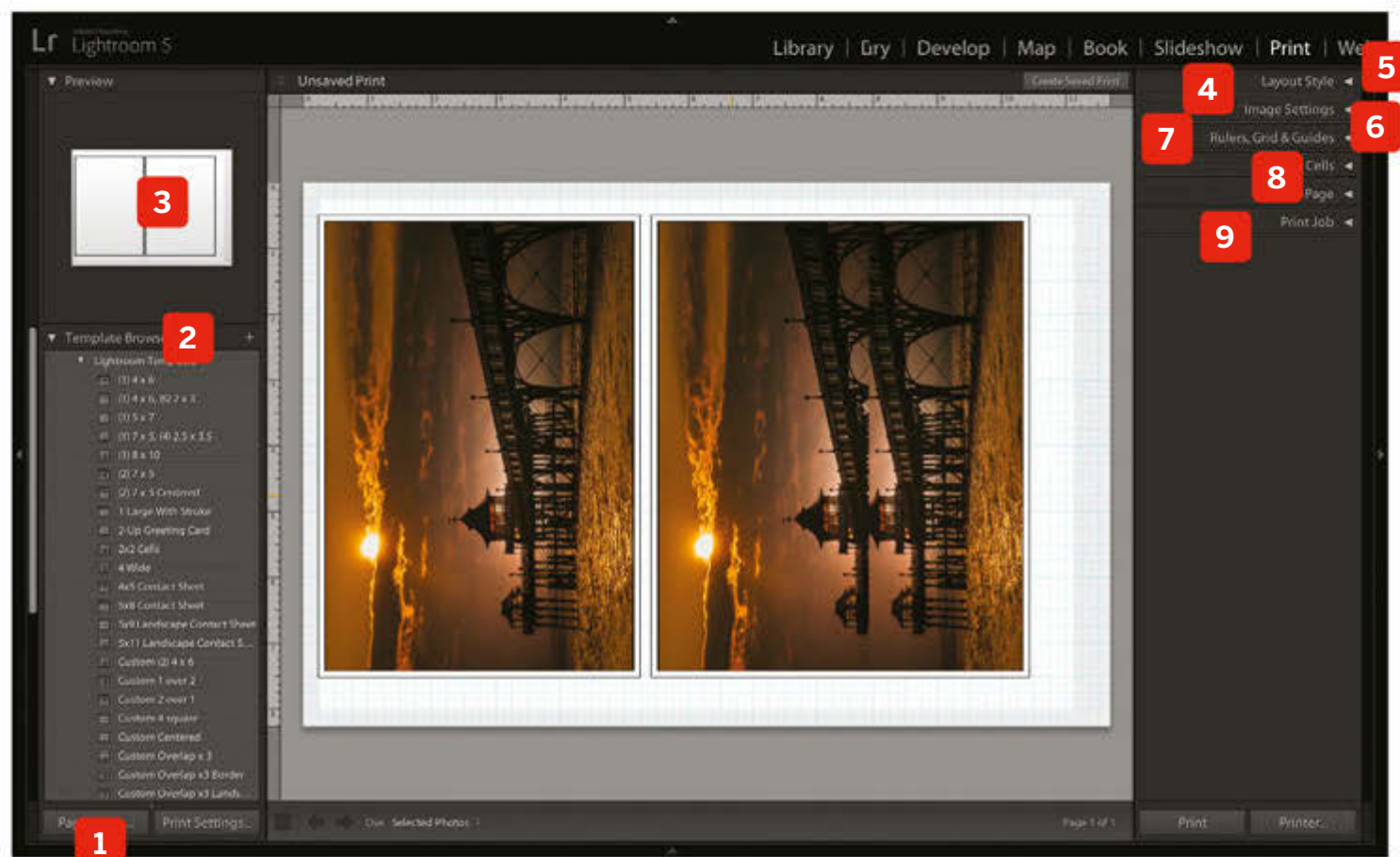
The Graduated Filter panel shows a range of adjustments — to darken a sky, for example, you can reduce the Exposure value. Once the graduated effect

has been created, you can drag on its 'pin' to move it, drag on the horizontal line through the centre to rotate it, and drag up or down on the outer lines to adjust the distance over which the gradient is applied. Far more convenient than a real ND grad!



Printing options

Everything you need to get perfect prints is in this Lightroom module



1 If you're used to printing a single photo at a time on a single sheet of paper, Lightroom's print layout settings might seem quite intimidating, but that doesn't have to be the case. You can print multiple images on one page, soft-proof with your printer profiles and much more. Here's our guide...

1 Page Setup

This displays your printer's standard Page Setup dialog. It's important to set the paper size first, or the rest of the layout options in Lightroom will be affected. For example, if you're printing on borderless A4 paper, you need to select that here or Lightroom will display a white border around your prints.

2 Template Browser

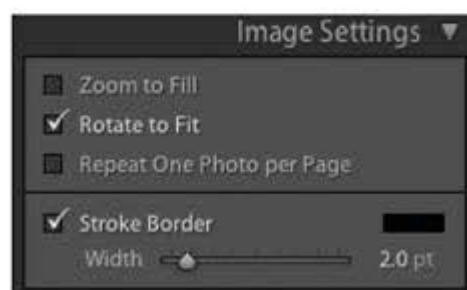
If you find yourself using the same print layouts again and again, it could be worth saving them as your own User Templates to save time and effort on future projects. Lightroom comes with a wide selection of templates as standard.

3 Preview

This panel shows how your chosen template will look – each template is made of up of 'cells' within which pictures are printed. A template for printing single images just has one cell. The Preview panel doesn't show your selected images 'live', but if you click on a template to select it, you see them in place in the main window.

4 Image Settings

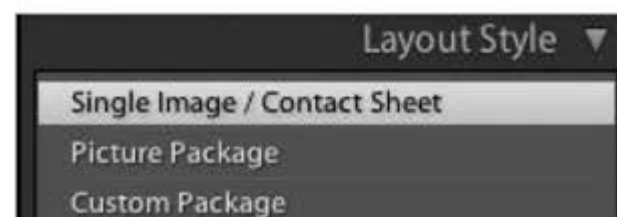
Lightroom usually fits the whole image within the print 'cell', leaving space around the edges if the photo's aspect ratio is different



to the cell's dimensions. To fill it, check the Zoom to Fill box – you must do this to get borderless prints. The Rotate to Fit box rotates images to suit the page orientation in the Page Setup dialog. If you want to select and print a series of photos with the same settings, tick the Repeat One Photo per Page box.

5 Layout style

There are several Layout Styles. To print a single photo, choose a template with a single cell. To print a contact sheet, choose the number of cells in the Layout panel. Picture Package prints a number of copies of the same image on a single sheet. Custom Package enables you to print a number of different pictures at any size and in any configuration.



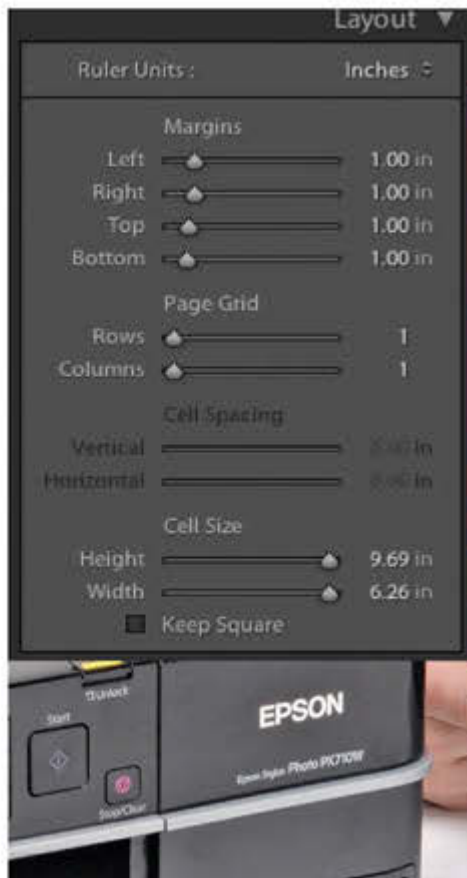
6 Guides

Displaying Guides helps you plan print layouts and anticipate spacing between cells and margins at page edges. Checking the Dimensions box can be useful because Lightroom will display the size of each cell at the top left corner (you can change the units used in the Layout panel).



7 Layout

The Layout panel offers detailed control over cells in your print template. Use the Margins sliders to control the space around the edges of the print — these need to be reduced to zero for borderless printing, for example. The Page Grid sliders are used to define the number of cells in a contact sheet layout, and if these are more than 1 then the Cells Spacing controls below are activated. The Cell Size sliders are an alternative way of adjusting the size of photos in single prints and contact sheets.



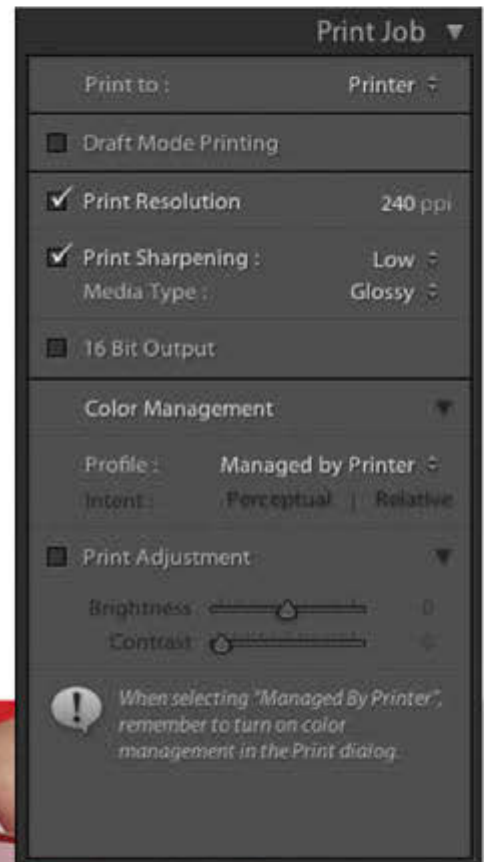
8 Page

Here you can find options for customising the print appearance and adding information. For example, you can use a different Page Background Color. There is some crossover between Identity Plates and Watermarking. Both enable you to stamp your printed images with text, or with a graphical Identity Plate or Watermark which you create separately and then specify in this panel. The Photo Info option is especially useful, in that you can add image metadata to the print.



9 Print job

This is where you make final adjustments to print settings, in particular the 'output sharpening'. The degree and type of sharpening depends on print size. Choosing this at output stage is preferable — rather than sharpening 'by eye' during image editing. This is where you choose printer profiles, too — whether you use the profiles in the printer driver, or your own custom profiles. Lastly, if your prints are coming out too dark or light, tweak the settings here.



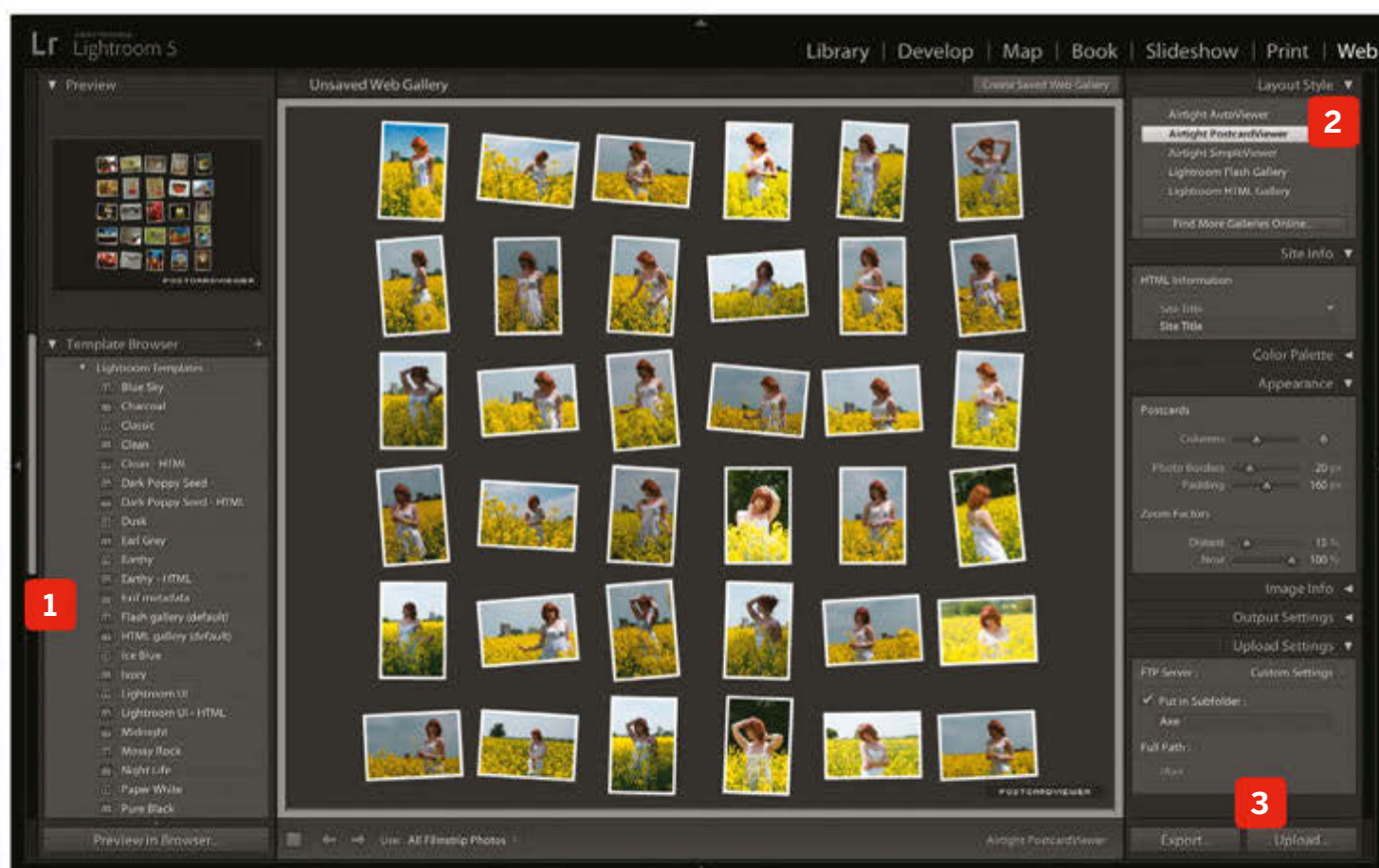
Sharing your images

Prints, Facebook and Flickr aren't the only way to share your photos with others – Lightroom has three more...

Lightroom also offers the ability to create Web Galleries, Slideshows and – new in Lightroom 4 – Books. The Web Galleries module follows the now-familiar Lightroom format of preset templates in the left sidebar and manual customising tools on the right. Each Web Gallery

consists of one or more index pages linked to individual photos. Lightroom exports finished HTML files, which it can then upload directly to your web host (you will need a web hosting account and FTP upload details from your service provider). Slideshows are a good way to show off your pictures to friends or clients. Again, you

have a choice of templates on the left, and manual controls on the right. The Book module has been produced in conjunction with online books publisher Blurb. Instead of using web-based layout tools or a separate program, you can design books entirely within Lightroom. You then upload and order your book from Blurb.



Create a website

You can manually select individual photos from within an existing Collection or Folder, but it's generally easier to gather the photos you want in a Collection of their own. You can then select a template from the list on the left [1], or start from scratch.

Over on the right, the Layout Style [2] offers a choice of five main gallery types – three from SimpleViewer and generic Flash and HTML galleries from Adobe. You can

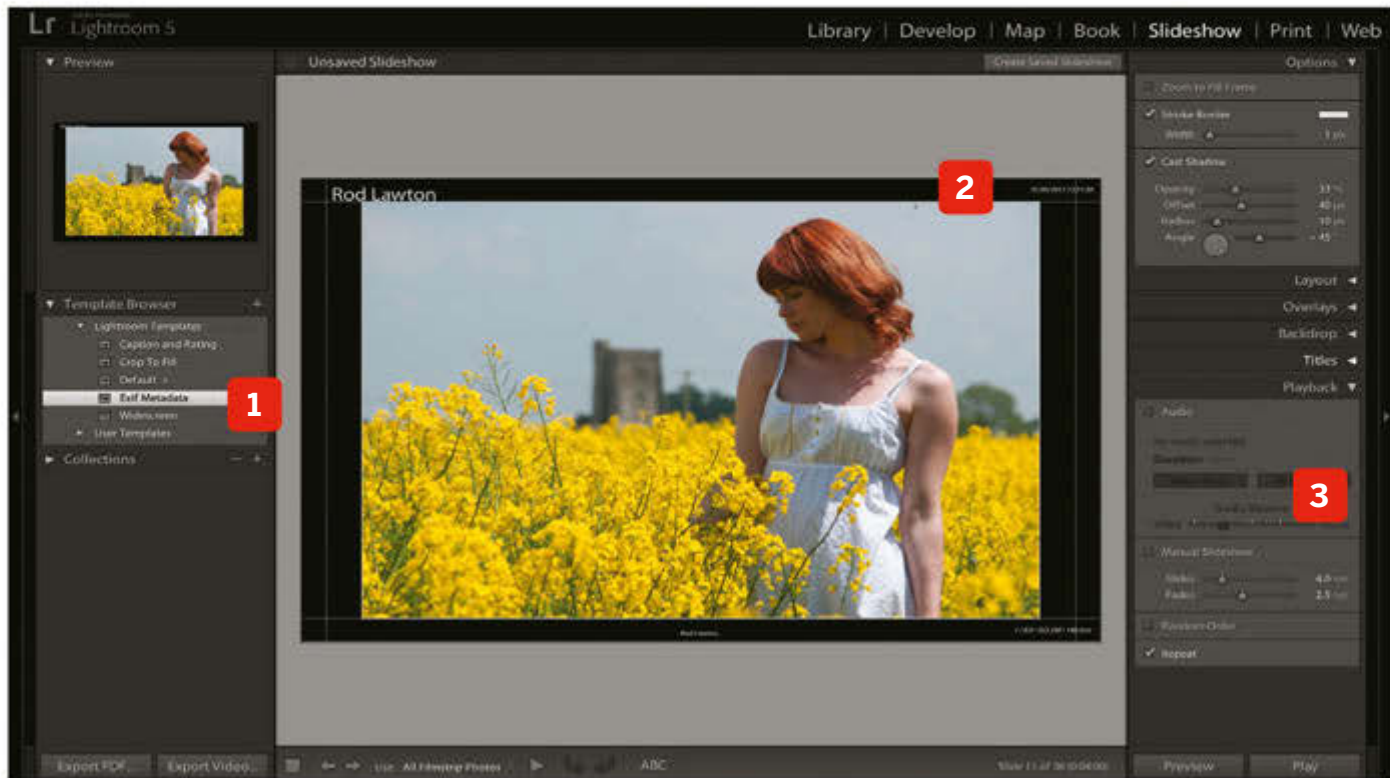
download other galleries using the 'Find More Galleries Online' button.

Below this, the Site Info and Image Info panels are used to input a title and description for the site, and to choose the metadata (captions, for example) displayed alongside the photos.

The options will vary according to the template that you have chosen – with Lightroom HTML Galleries, for example, you can choose the size of the grid used on the

index pages and the size of the images on the individual gallery pages.

The Upload Settings panel at the bottom [3] is where you type in your web host's FTP upload details. You'll need to know the name of the FTP server, your username and password. If you click the Create Saved Web Gallery button at the top right, your gallery will be saved permanently in the Collections panel, and you can return to it in the future to update the images or associated information.



Create a slideshow

Slideshows are a good way to showcase your photography, and you can either play them back on your own computer or export them in a format which you can send to other people. The Slideshow module offers a small selection of preset slideshow designs [1] in the left-hand sidebar and, as usual with Lightroom, you can adapt these or create your own templates using the manual tools on the right. Bear in mind that if you save a new

User Template, you're only saving the slideshow layout, not the photos used in the slideshow. To save the whole production, you need to click the Create Saved Slideshow button at the top right of the main window [2]. Your slideshow is then saved in the Collections panel on the left.

Lightroom doesn't offer a large array of different transitions and 'themes'. It relies instead on a simple Fade effect, and you adjust the duration of each slide and the

length of this fade effect in the Playback panel [3]. The other panels — Options, Layout, Overlays, Backdrop and Titles are concerned mainly with the arrangement of photos within the slideshow window and the text to be displayed alongside. At the bottom of the left sidebar are two buttons. The Export PDF button produces a PDF version of the slideshow which will play back in Acrobat Reader on other people's computers, though there won't be any music.

Create a book

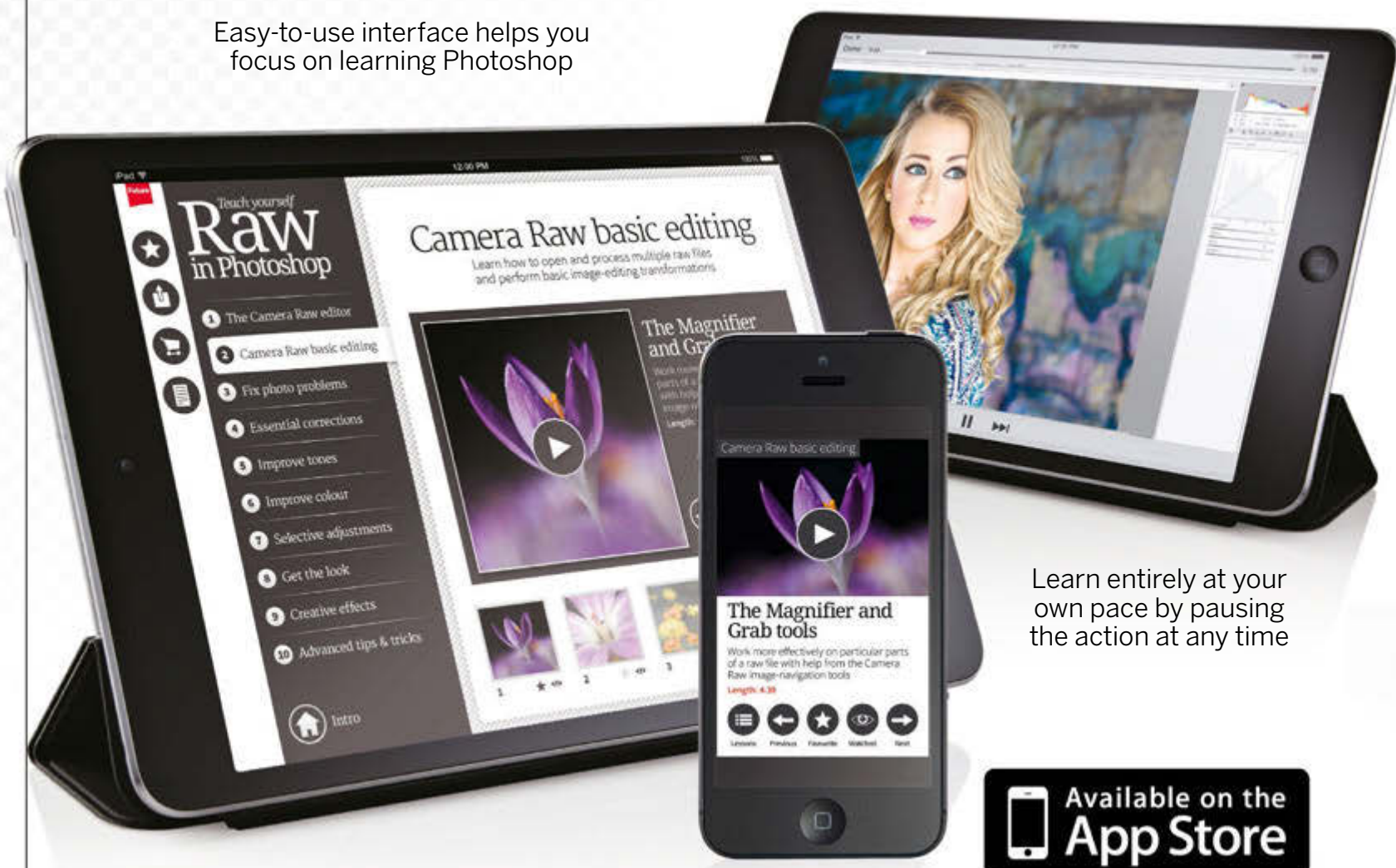
There are no preset templates in the Book module. Instead, you create books manually. You start in the Book Settings panel [1]. Here, you have the option of choosing a printed book, a PDF or JPEG versions of your book pages. Below this are Size, Cover and Paper Type options based around Blurb's own book formats. At the bottom is an Estimated Price, though this will change according to the number of pages in your book. The Auto Layout panel [2] will populate the book with your selected images, but if you want control over the layout of the individual pages, you'll need to select them and use the Page panel and its drop-down layout menu to choose from a variety of single and multiple-photo layouts, some with text boxes. The templates contain photo placeholders [3] which may already contain a photo. You can drag photos from the Filmstrip onto these placeholders. The Filmstrip displays a number at the top of each thumbnail to show if it's been used in the book, and how often. ■



Teach yourself **Raw** in Photoshop

Teach Yourself Raw in Photoshop is also available as a 50-part video course. Choose either the DVD edition or the interactive iPad app and discover another great way to learn Photoshop

Easy-to-use interface helps you
focus on learning Photoshop



Learn entirely at your
own pace by pausing
the action at any time

Available on the
App Store

The DVD version comes in a stylish protective case for easy filing



Get the DVD version today from our secure online store:
myfavouritemagazines.co.uk/photo





The Gallery

Take inspiration from the best pictures created by passionate photography enthusiasts

204 Cromer Pier
By Daniel Tink
UK

206 Titan Gate
By Michael Theophan Lujan
USA

208 My Little Horse Shoe
By Gaël Trijasson
France

210 Early Spring
By Leszek Paradowski
Poland

212 Pier Storm 2
By Geoff Love
UK

214 A Glass of Wine
By Els Baltjes
The Netherlands

216 She's Got The Black
By Petko Petkov
Bulgaria

218 A Life in the Night
By Jean-Baptiste Rambaud
France

220 Blackness Boats
By David Queenan
UK

222 Fury
By Patrizia Burra
Italy







Cromer Pier

By Daniel Tink, UK

Using Photoshop CS2

Shot in raw, this is my first attempt at HDR photography. My aim was to bring out the detail and exposure of the pier from beginning to end with an eye to keeping the shot as symmetrical as possible. The resulting five exposures covering the entire dynamic range were blended in Photoshop CS2 using layer masks. Although more post-processing time is involved, I can officially say I'm now a huge fan of HDR. The increased dynamism over flat images is truly amazing, and has opened up a new and exciting world for me.

www.scenicnorfolk.co.uk





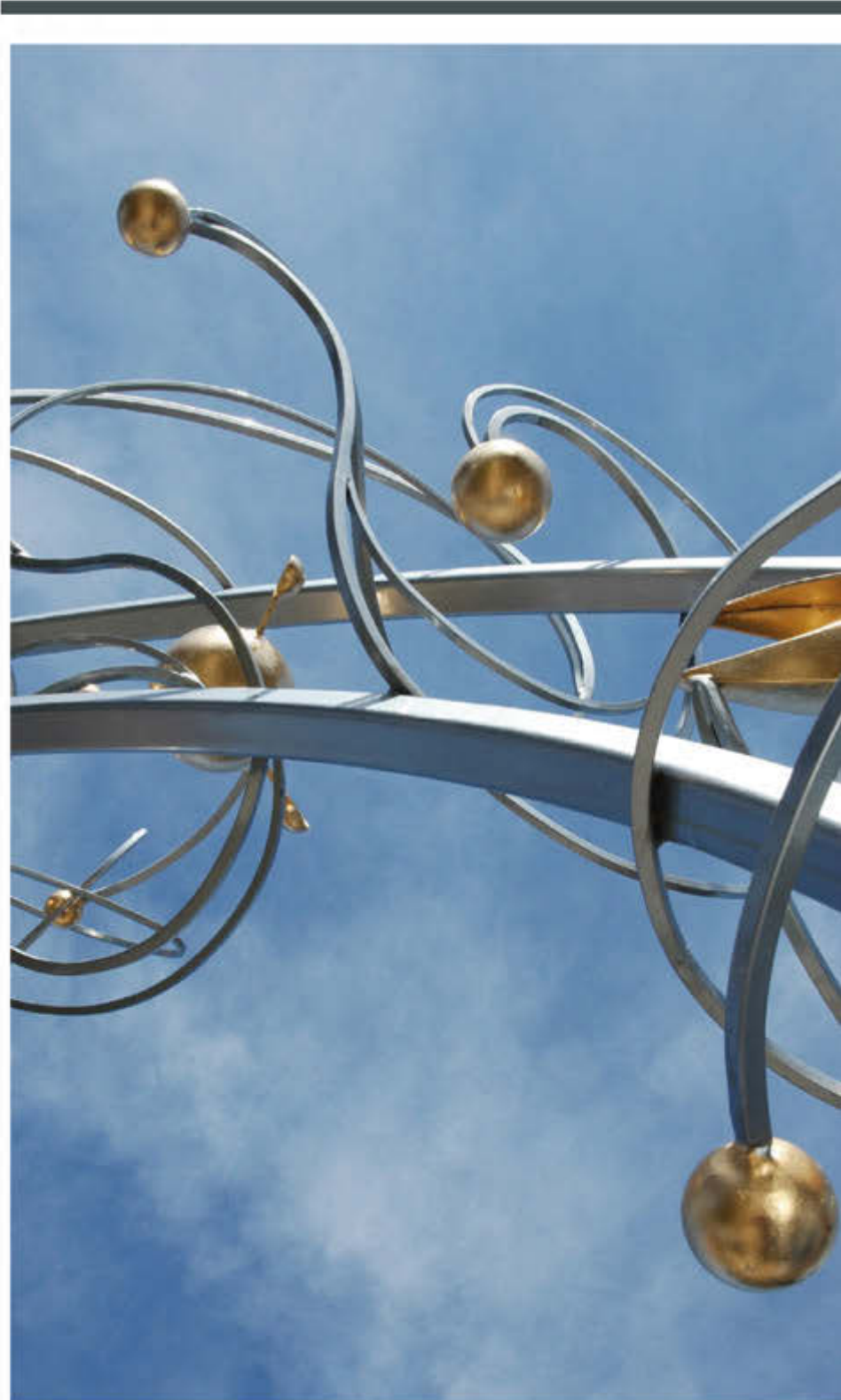
Titan Gate

By Michael Theophan Lujan, USA

Using Photoshop CS

I've been shooting raw for about ten years now. I shoot almost anything that strikes my fancy, although if it makes for a good science fiction scenario, so much the better! If it provokes a sense of wonder, I want to capture it. I took the original raw image as is, properly-exposed and white-balanced, and duplicated it into another layer, on top of the original. Then I used the Vivid Light Blend mode on the duplicated layer to heighten the contrast and saturation of the image. And lastly I applied a Curves adjustment layer, using the individual colour curves to increase the red and decrease the blue.

www.photomenon.com









My Little Horse Shoe

By Gaël Trijasson, France

Using Photoshop CC

Why do I love photography so much? It is a simple way to stop living in the moment. This is anti carpe-diem, in short. Our environment provides us daily opportunities to marvel. You just have to look at the right time! Today, I like to capture the beautiful things to share. This is a panoramic photo made from four pictures shot at 50mm. I used a panoramic head mounted on a tripod and a remote control for trigger to avoid camera shake. After developing the files using Camera Raw (to fix the exposure and contrast) I assembled the photos using Autopano-Pro. Then I added some filters and curves in Photoshop to complete the picture.

www.gaelphoto.com





Early Spring

By Leszek Paradowski, Poland

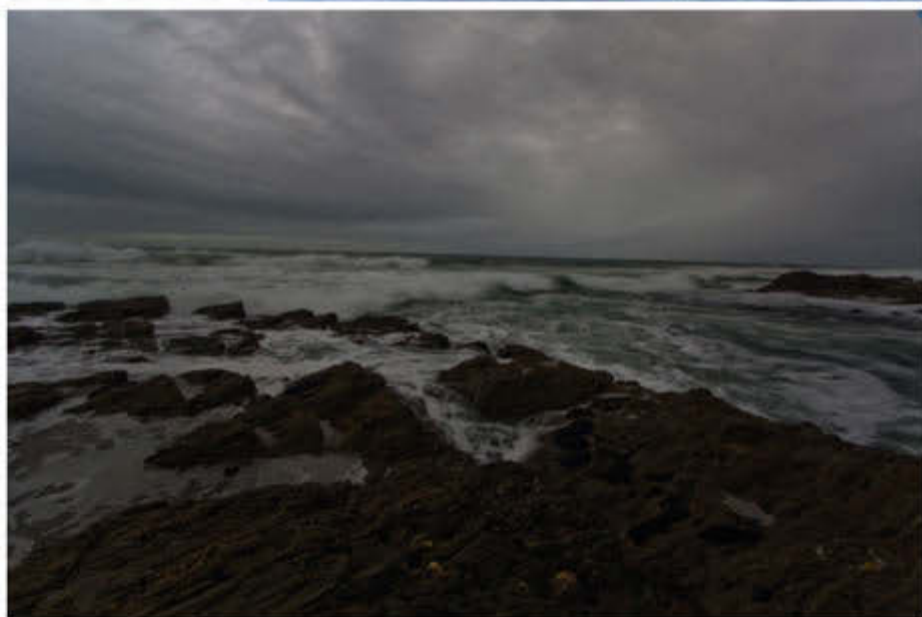
Using Photoshop CS4

This was taken at the end of winter and the beginning of spring, close to my home in north-west Poland. Its surreal feel doesn't come from my own photographic skills, but from the place where it was taken. However, I did use a wide-angle lens so that I could highlight an interesting configuration of clouds. The image was initially prepared with Camera Raw 5.7, then I brought it into Photoshop CS4, where I increased the contrast, sharpening and converted it to black and white.

www.paradowski.net.pl







Pier Storm 2

By Geoff Love, UK

Using Photoshop CS

Despite the dark conditions I kept the ISO low for this shot of Tynemouth lighthouse, giving a slow exposure that retained some movement in the waves. A wide aperture focusing on the lighthouse gave me the slightly softer waves in the foreground. The raw file was processed twice. Once for the main part of the image, and again to retain the detail in the sky.

www.geofflove.co.uk





A Glass of Wine

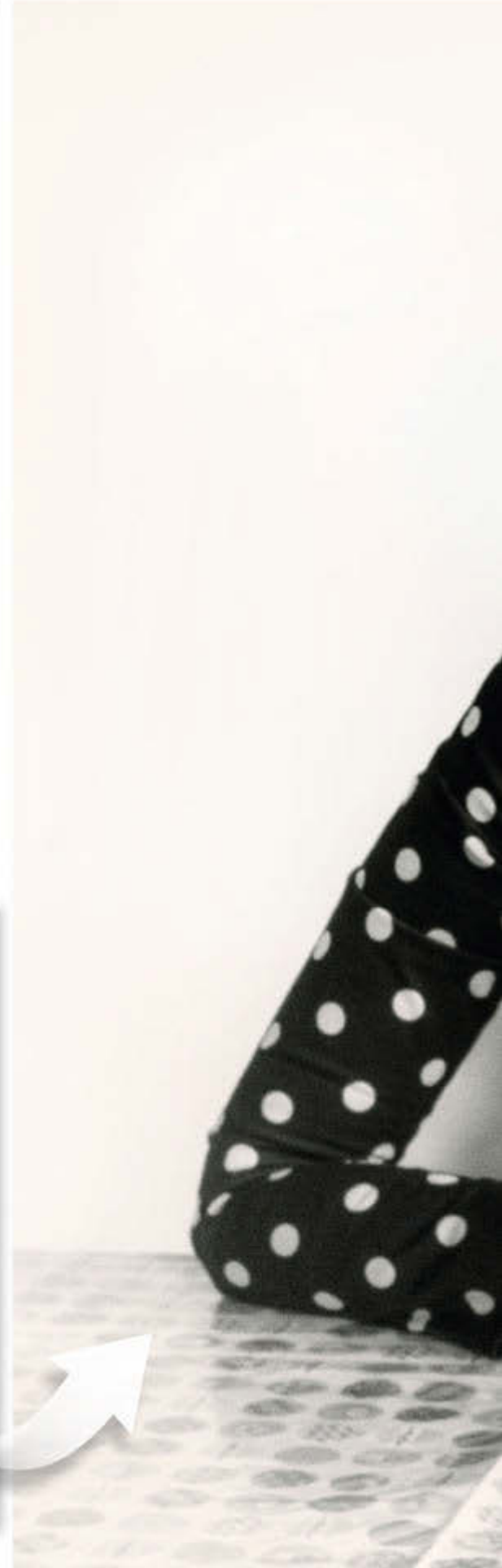
By Els Baltjes, The Netherlands

Using Lightroom 5

Taking pictures is a way of looking for me. I cannot look at things without a frame around it. The world around me exists because of so many beautiful things, great and small. I try to capture this beauty and share it with everyone who wants to see it! If that's you, then I hope you enjoy it!

This picture is shot in raw on an Olympus E-M1 for 1/250 sec using f/2.8 and ISO400. The model is sitting at a table. You can see the dots in her clothes as well as on the tablecloth. In front of her is a big vase in the shape of a wine glass. By using the perspective, it looks like a normal wine glass. The water in it causes the effect of a mirror. It's just a matter of positioning to get her face reflected in the vase. I imported the picture into Lightroom, and added some contrast and Clarity. After that I turned it into black and white using the neutral filter of Nik Silver Efex Pro, using the sepia toning. Again, I added some contrast and brightness, and I cropped a bit off the bottom of the picture. The final touch is the light vignette.

www.eb-fotoart.nl









She's Got The Black

By Petko Petkov, Bulgaria

Using Photoshop CS6

I try to make photos that would stick in people's minds. I believe that in photography, quantity has nothing to do with quality, and every photograph speaks for itself. So I try to give my best to every piece of work I make, hoping it will be appreciated for what it is.

I wanted to create something provocative, different and unusual. This is how the idea to paint my girlfriend's skin black occurred to me. The lighting was very simple. I put two softboxes right in front of the model and slightly overhead. I wanted to achieve a natural look and maximum symmetry. The session was easy for both of us. It didn't take much time and I was very pleased with the results.

www.ppetkov.com

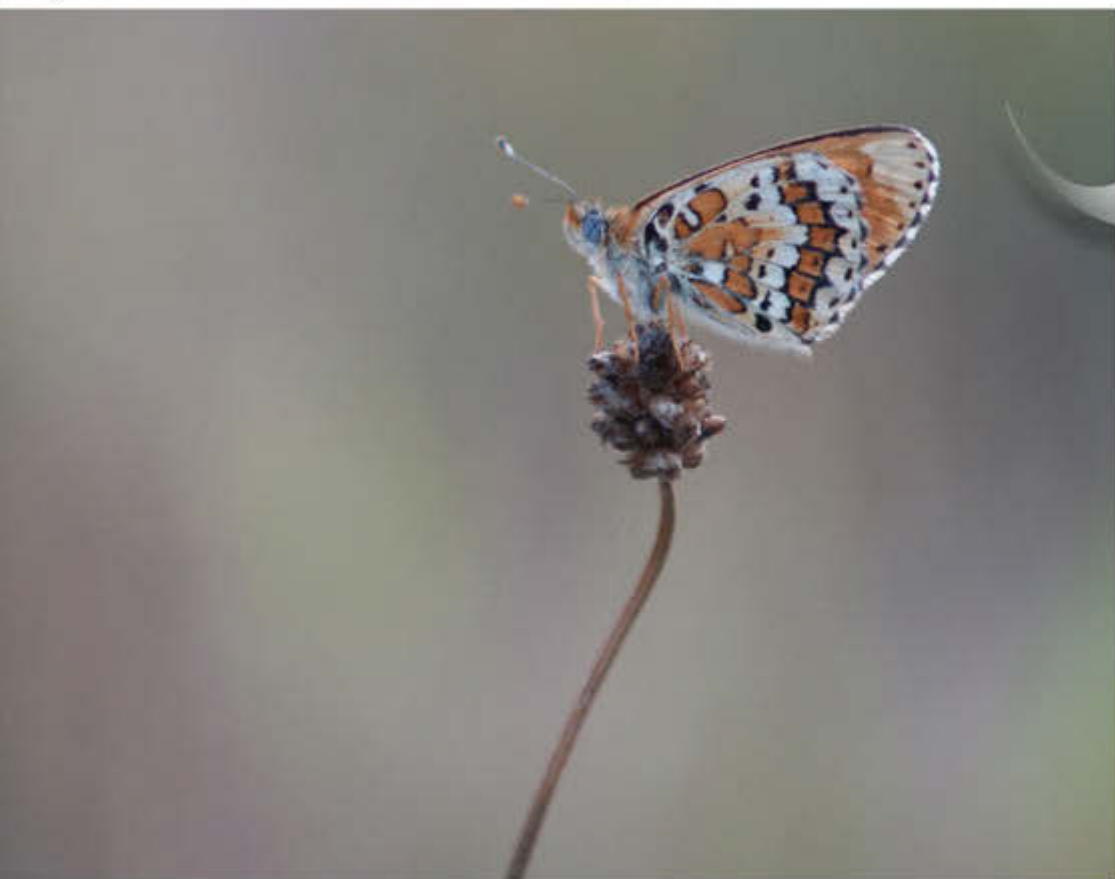


A Life in the Night

By Jean-Baptiste Rambaud, France

Using Lightroom 5

This photo was taken in France, near Nantes with a Nikon D300 and a 70-210mm lens. I used a wide aperture in order to completely isolate the butterfly from the background. The retouch allowed me to give a dream-like character to this photo by changing the white balance to colder colours. The rest of the work consists in modifying slightly the lighting effects of the bokeh and the contrast with the butterfly. <http://500px.com/jbaptiste>







Blackness Boats

By David Queenan, UK

Using Photoshop CS

As I was walking back up from the beach towards my car, I stopped to clean the mud from my tripod legs. Turning around, I saw this view. I decided I had just enough time for one last shot before the light completely faded. I'd normally have taken this with a longer exposure, but my very old, cheap tripod has seen better days. When I set up the camera in portrait format, it sometimes starts to slip, so I had to almost half-hold it in place and keep the shutter speed as fast as possible — hence the wide aperture and high ISO this was taken with. I also used a 0.6 ND grad to darken the sky, then further enhanced it in Photoshop by processing the sky and foreground separately from the same raw file.

<http://dqphotography.com>





Teach yourself **Raw in Photoshop**

**Fury****By** Patrizia Burra, Italy**Using** Photoshop CS5.1

Initially, I used the Dodge and Burn tools in Lab mode on this image. I then added a new layer with the Soft Light Blend mode before desaturating it. I like to work with masks because they allow me to hide parts of the layer without harming a single pixel.

www.patriziaborra.com ■





